The Golden Hands Encyclopedia of CRAFTS

The complete guide to traditional and modern home crafts

Volume 2

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Golden Hands Encyclopedia of

CRAFTS

INSTITUTE OF EDUCATION FOR WOMEN
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CALCUTTA-27

Marshall Cavendish

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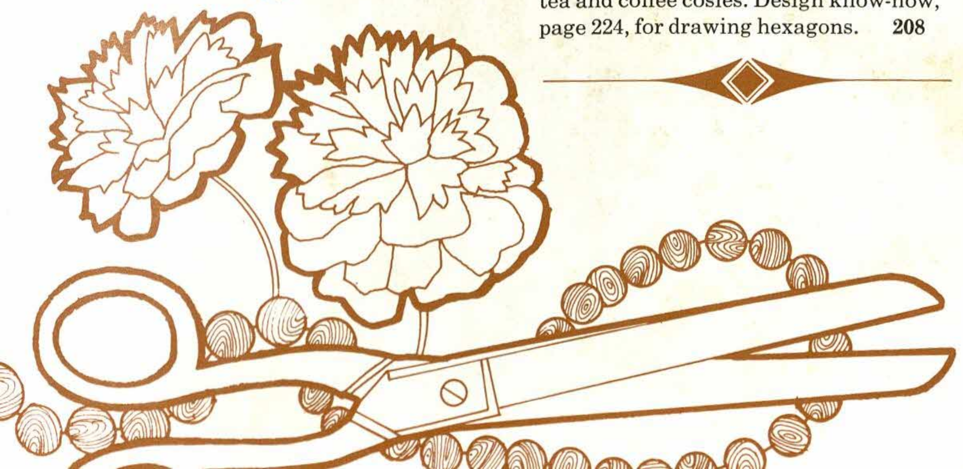

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Metrication
In this volume you will find two systems of measurement. The first set of figures refers to the metric system and the Imperial figures follow in brackets. Wherever possible, a commonsense approach has been adopted and both sets of measurements have been worked out in round numbers. **BUT BEWARE!** This means that metric and the Imperial figures are *not* equivalent so make sure you only work with one or other set of figures.

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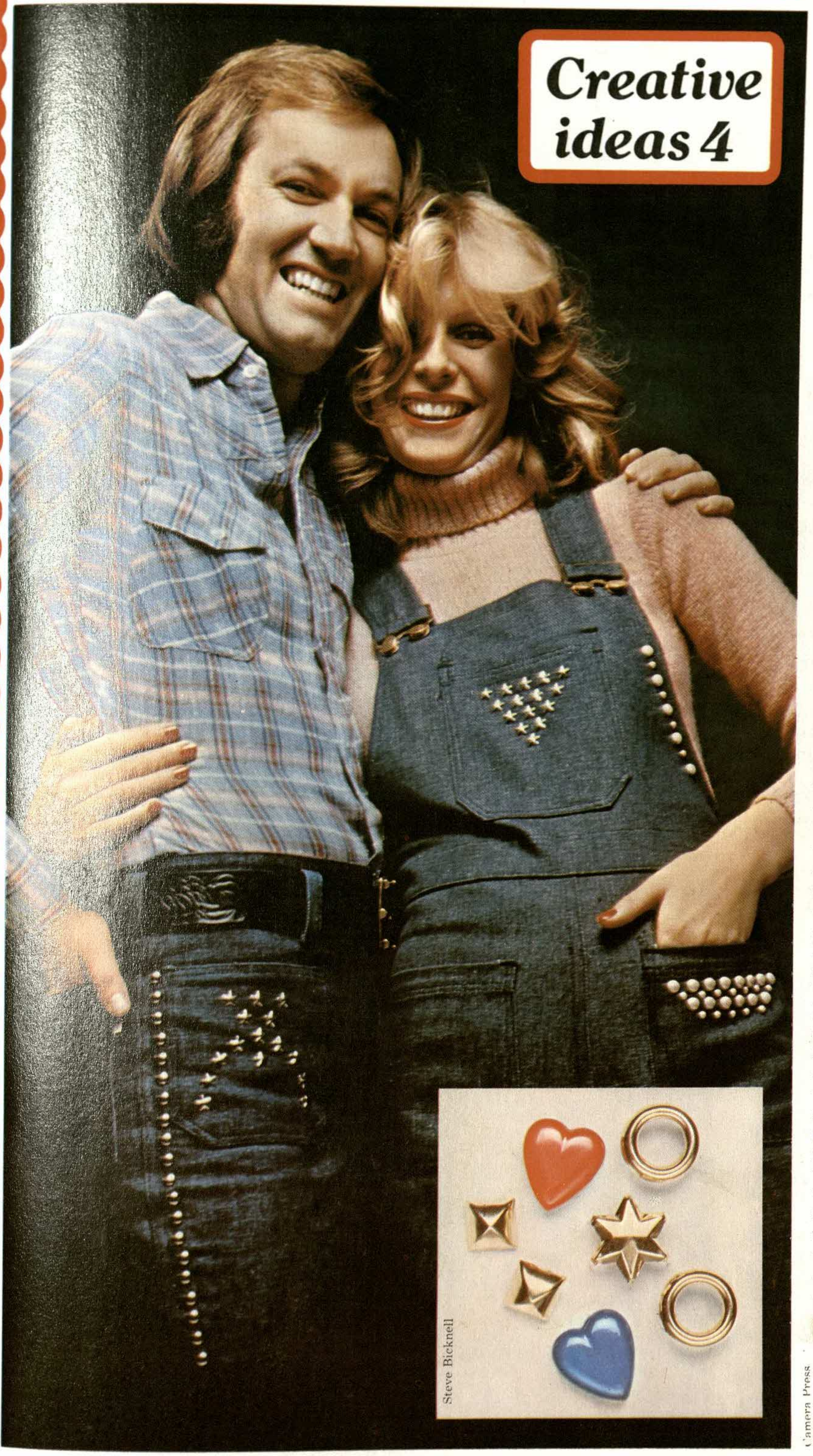
Creative ideas 4



Steve Bicknell

Camera Press

Star-spangled jeans

It's not only on these jeans and dungarees that studs look good. They're a quick and foolproof way of giving a sparkling look to all sorts of casual clothes and accessories. Make sure that the material you are using is tough enough.

Denim, suede, heavy linen, corduroy, gabardine, firmly knitted sweaters—all these can look extra-special.

The studs shown here can also be bought in brass and they come in a variety of other designs and sizes. Plain round studs painted in the primary colours; raised and flat star shapes, snowflakes, bullets and hearts, either silver, gold or brightly coloured; tiny rhinestones, transparent or jewel-coloured. All these are widely available from haberdashery counters and are usually sold in packs.

Plan where to put them for maximum effect and vary the stud pattern to suit your particular garment. They look neat edging the front of a jacket or jerkin or round the armholes of a waistcoat. Emphasize the edge of a pocket (no need to tell you not to put them where you will sit on them). Use large and small ones of the same style together . . . alternate large and small studs all along a belt . . . or confine them in a little group at the centre front. Fix a little row into the shape of your initial on a bag, belt or top pocket.

How to do it. Always have a little pad of cloth over the face of the stud while you are fixing it—this will help to avoid damaging the surface. Fixing is simplicity itself; push the stud into your material in the position required, making sure that all the little clips all round the edge of the stud are well through. Then, on the wrong side, bend the clips down towards the centre of the stud individually with something strong like a large coin.

Left: round and star-shaped silver studs on jeans and dungarees, plus detail of an assortment of studs.

Making crepe paper flowers

Paper 5

Crepe paper has always been popular for making flowers because it can be stretched and formed to suit whatever flower shape you like to make.

It has quite different qualities from tissue paper and the more time you spend coaxing and shaping it the more interesting it becomes. Even the cheapest brand of crepe paper will expand over half as much again, which gives plenty of scope for modelling flowers—from roses to arum lilies. It is also easily wrapped around wire to make a perfect covering for stems.

Crepe paper is bought in lengths of about 3m (10′) and this is called a fold. The kind generally available is single crepe which is 50cm (20″) wide.

Crepe paper is also manufactured especially for flower-making in two layers bonded together, 25cm (10″) wide, and this is known as double crepe. Unfortunately, it is now sold through very few outlets.

Preparing flower parts

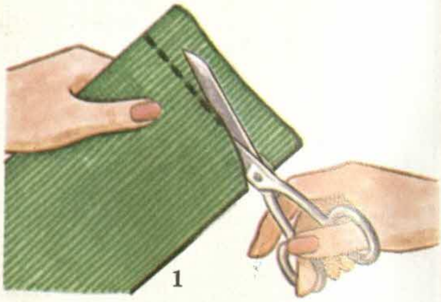
Cutting a crepe paper strip. Crepe paper stretches one way only—lengthways. The grain, that is the small lines, run along the width. The petals and leaves in most flowers have the stretch going across and the grain running downwards.

Hold a fold of paper firmly in one hand and, with the other hand, cut strips off with sharp scissors—parallel to the edge of the fold (fig.1) and cutting across the grain.

For stem bindings cut strips 13mm (½″) to 2.5cm (1″) in width.

For petals cut 10cm (4″) widths for small flowers and 15cm (6″) widths for medium sized flowers.

Always cut crepe paper strips across the grain to ensure that the stretch goes in the right direction.



1

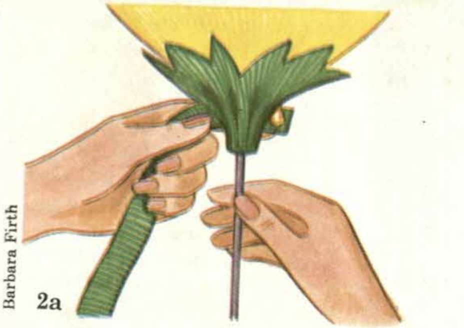
Covering wire with crepe paper strips

When practising this technique the wire will not be attached to a flower but, when you are actually flower-making, it could be.

First put a little glue at the top of the wire or, if it is attached to a flower, around the base of the flower and calyx (fig.2). Wrap the binding around the top of the wire very tightly two or three times.

Holding the paper between the thumb and forefinger of either the left or right hand—whichever you find the easiest—twirl the wire round with the other hand.

Guide the binding diagonally down, stretching the paper to make it tight. When you reach the bottom, break off the paper, glue and stick down.



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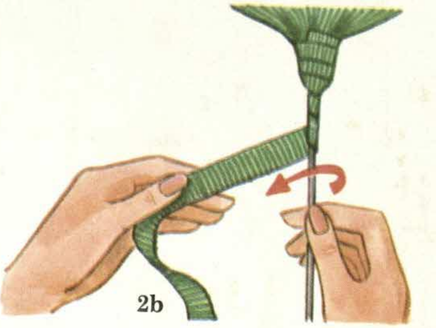

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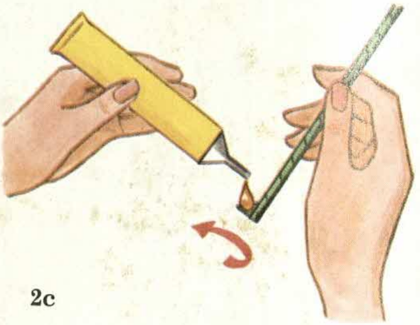


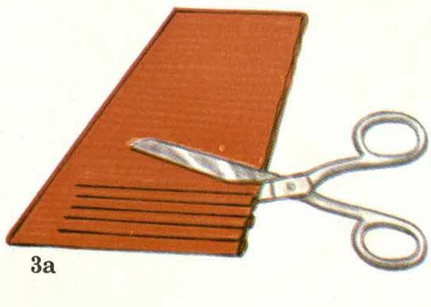
2c

Barbara Firth

Cutting fringes

Cut a crepe paper strip as described, making it the width you want the fringe to be plus 2.5cm (1″) as a base for attaching to the stem wire (fig.3). Unfold the strip and fold it in half, fold it again, then fold it once more. Pin it once or twice to keep it in place. Start cutting the fringe along the grain, making the cuts about 13 mm (½″) apart or closer if you want. You can leave the ends of the fringe square or cut them into points.

There is an alternative way of cutting a fringe. If your hands are fairly strong and your scissors are sharp you can cut a fringe straight into the crepe paper strip without unfolding it. This is obviously the quickest method and one worth trying when you have more confidence and experience.



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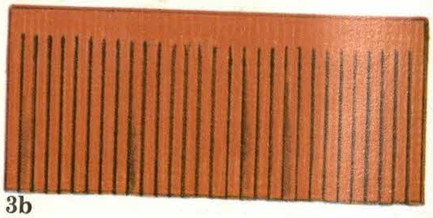

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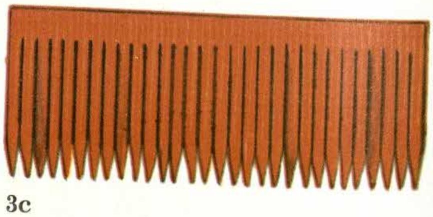
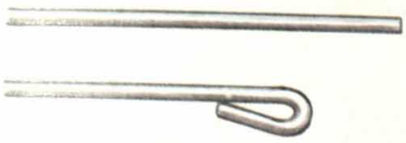


3c

Assembling the flower

Bending the wire top. The top of the stem wire is often bent to prevent the flower centre and petals falling off. Take the top of the wire between thumb and forefinger, turn it over 6mm (¼″) and bend it back as close to the wire as possible. This is easier to do with a pair of pliers (fig.4).



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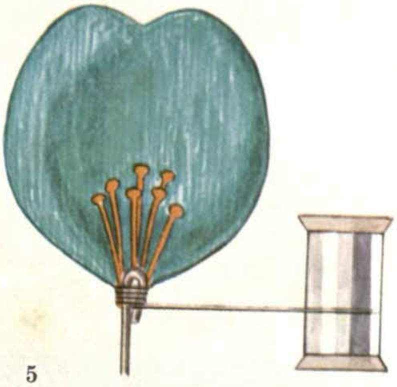
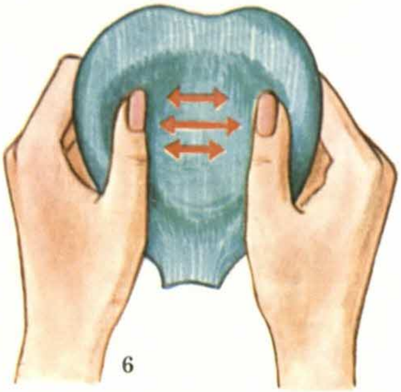
Wiring petals on to stem wire. This is done with florists' wire and takes a little practice. You may find it helps to put a little glue at the base of the paper before you start. Hold the paper (whether it is the centre of a flower, or petals) against the stem wire, wind the florists' wire round a few times and hook the end of the stem wire over the wound wire to secure it (fig.5). Pull very tight and continue winding round and down the stem a little way before breaking off.



5

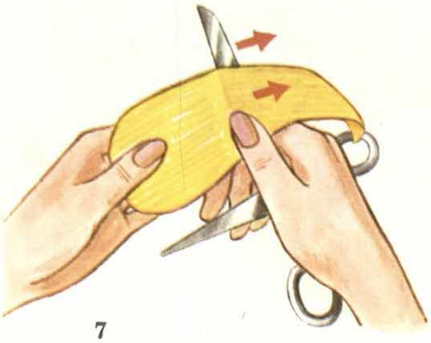
Shaping petals

Cupping petals for shape. Place your thumbs and fingers on either side of petal. Stretch the paper widthways gently with your thumbs, producing a cupped shape (fig.6).



6

Shaping petals with scissors. Hold the petal with one hand and the opened scissor blades in the other. With the inside of the scissors blade behind the paper, gently scrape across the underside of the paper, as shown (fig.7), to give a gentle curve.



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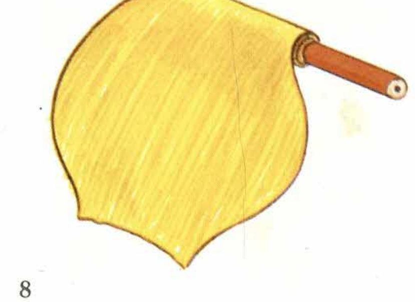
Curling petals around a pencil. For a tighter curve, wrap the petal edge round a pencil or orange stick very tightly, then withdraw it (fig.8).



8

Melvin Grey

Giant poppy and sunflower-shaped paper flowers make a brilliant splash of colour. From a Priscilla Lobley kit.

Artichoke flowers

These are one of the simplest crepe paper flowers to make and you can use the same techniques to make many different types of flowers. The centre is composed of several strips of fringes that have been wrapped around the stem wire. The fringe ends have been pinched and ruffled up to soften their outlines. These flowers make amusing and attractive decorations and mix well with dried grasses.

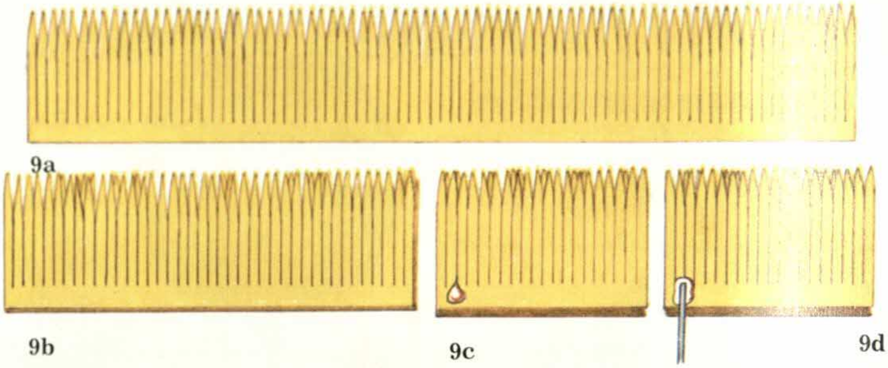
You will need:

4 folds of crepe paper—suggested colours are 1 mauve, 1 yellow and 1 white for the centre and 1 brown or green for the outer circles of petals. This is enough for two flowers.
50cm (20″) of 1.6mm (14 gauge) stem wire and green crepe paper
Florists' wire
Large tube of PVA glue
Tape measure

To make centres. Cut a strip about 16.5cm (6½″) wide, as described in preparing flower parts, from each of mauve, white and yellow folds of paper.

☐ Unwrap each, cut fringe and cut each into 3 equal pieces. These are now ready to wrap round the centre of the flower. (Some strips will be left over for use on the next flower.)

☐ Take a yellow fringe piece and fold into four. Put a dab of glue on the base and place the stem wire on the glue (fig.9).



9a

9b

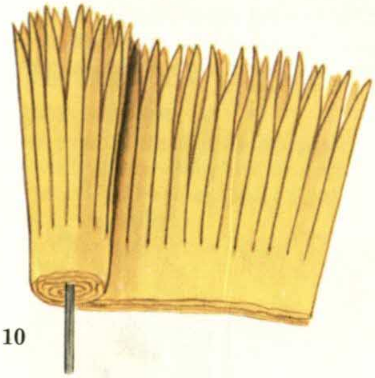
9c

9d

☐ Making sure that the base of the crepe thicknesses are flat and level, roll the paper round the wire (fig.10).

☐ Secure in place with florists' wire (figs.11 and 12).

☐ Continue to add fringed strips—first white, then mauve, then yellow. You can stop at 3 strips or use a 4th strip if you want the flower centre to be larger.



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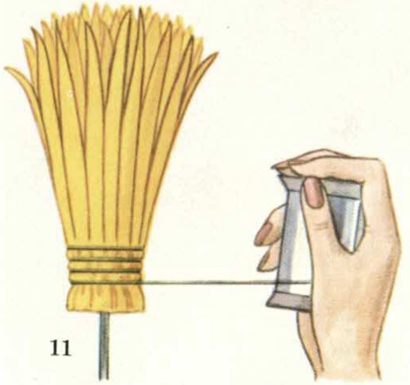

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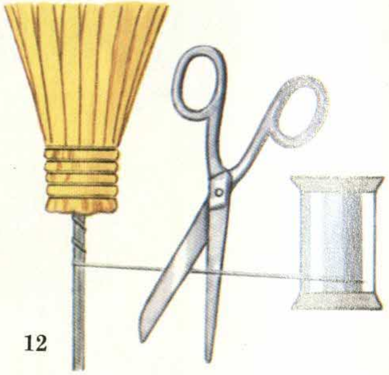


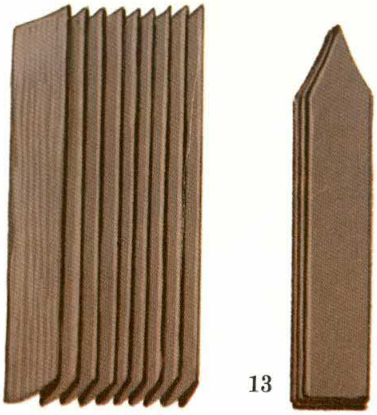
12

To make the outer petal. Cut a 23cm (9″) wide strip from the brown or green paper. From this strip cut off four 61cm (24″) lengths. Refold three of the four lengths. Take the first folded length and trim 2.5cm (1″) off width to make a 20.5cm (8″) wide strip. Trim another one to 17.5cm (7″) and the fourth to 15cm (6″). These form the four circles of outer petals.

☐ Fold each strip neatly in concertina folds about 3cm (1¼″) wide and, when you have done about 10 folds, stop and trim off the excess with scissors. Cut a pointed shape as shown (fig.13).

☐ Unfold the strips, then bunch base into tiny pleats as shown (fig.14). Also shape the petals by cupping.

☐ Working with the 23cm (9″) wide strip, put dabs of glue all the way along the base and lay the flower centre down on the glue (fig.14).



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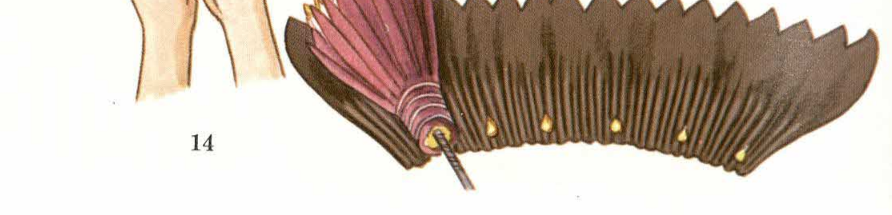
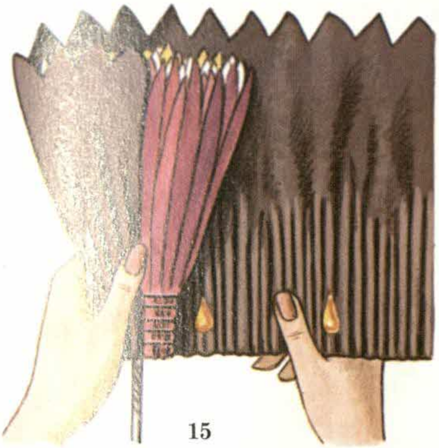


14

☐ Wrap the petal strip firmly in place at the base (fig.15). Hold it for a few seconds until the glue sets, making sure you keep the flower circular and even (fig.16).

☐ Continue in the same way with the 20·5cm (8″) strip, followed by the 17.5cm (7″) strip and then the 15cm (6″) strip, keeping the base even but graduating to shorter petals on the outside (fig.17).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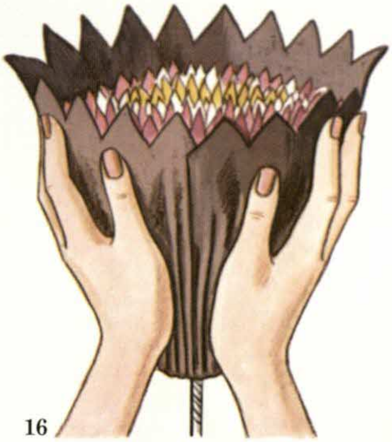
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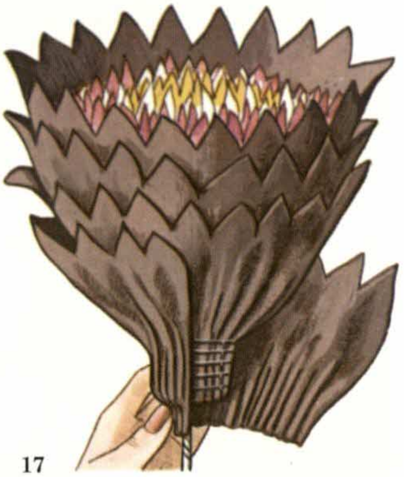
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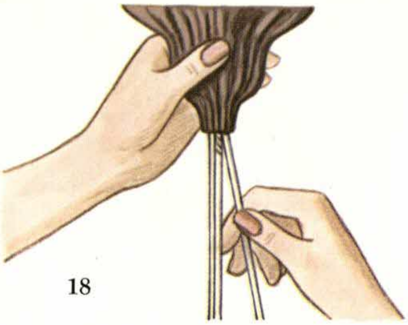
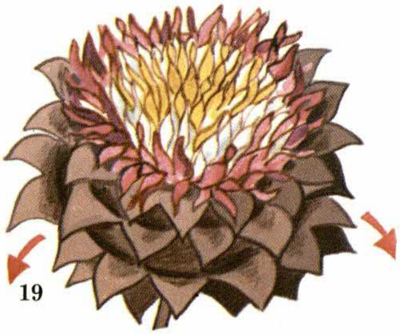
☐ Strengthen the stem by adding 2 more stem wires. Lay the 2 new wires against the first wire, pushing them up into the flower base (fig.18).

☐ Cover the wires with a 5cm (2″) wide crepe paper strip as described in flower-making techniques, pulling strip really tight.


18

The final touches. Ruffle and spread out the centre fringes and twist them together with your fingertips.
Work the crepe paper a little to make it look more natural.
Flatten the points of the petals firmly out and down (fig.19).
Curve the stem slightly towards the top near the flower.


19

An imaginative arrangement of artichokes. Designed by Priscilla Lobley.

Dick Miller

Casting with bought moulds

Plastics 2

When casting objects that do not need the optical clarity of, say clear-cast embedding, you can use ordinary casting resin. This can be coloured in any opaque colour or it can be finished and stained once the cast has cured. Depending on the object being cast and the required weight, the resin can be used either with a filler to give it weight or without if it does not need to be heavy.

Fillers

A filler is a material used to give a cast weight, to cut down on the amount of resin used, or to give it a metallic appearance. If the cast is to be opaque then a filler can be used, as no optical or translucent qualities are required. The filler can be up to 50% of the total volume to be cast.

You can use a metallic powder filler especially made for this purpose which gives the appearance of copper, iron or brass. Alternatively, you can use fine sand, flour, plaster of Paris, metal filings, glass fibres, talc, powdered slate or chalk. Different fillers will give you various textured finishes so you can experiment with small pieces until you get the particular results you want.

Colour pigments and stains

The cast can be coloured when you have mixed the resin and the filler but before you add the catalyst. Any of the colour pigments made for resin can be used. Black and ivory—which give a very natural colour—work particularly well. Once the casts have cured you can use any wood stain or household paint to 'antique' the cast. Cover the cast with the stain or paint and, while it is still wet, rub the paint from the more prominent surfaces and leave it to dry.

Manufactured moulds

Special-purpose moulds obtainable from craft suppliers generally come in four types.

Flexible moulds such as rubber moulds for candle-making, plaster casting or resin casting are probably the most versatile.

Semi-flexible polythene moulds are used for clear-cast resin and candle-making. Of course, you could cast plaster as well but the cast will not be interesting in itself unless the surface is decorated in some way.

Two-part moulds, usually produced by vacuum forming, are used for all types of materials but the range of available moulds is limited.

Rigid moulds such as ceramic, metal and glass offer a high degree of surface polish and therefore lend themselves especially well to resin casting.

Manufactured moulds can be bought from craft shops or manufacturers in many different forms. You can buy moulds to make chess pieces, candles, pendants and a variety of objects.

Although a bought mould will not give you an original design you can make it look different by giving it an antique appearance or by staining it. These moulds will give you some experience in casting more intricate pieces before you actually start making your own moulds.

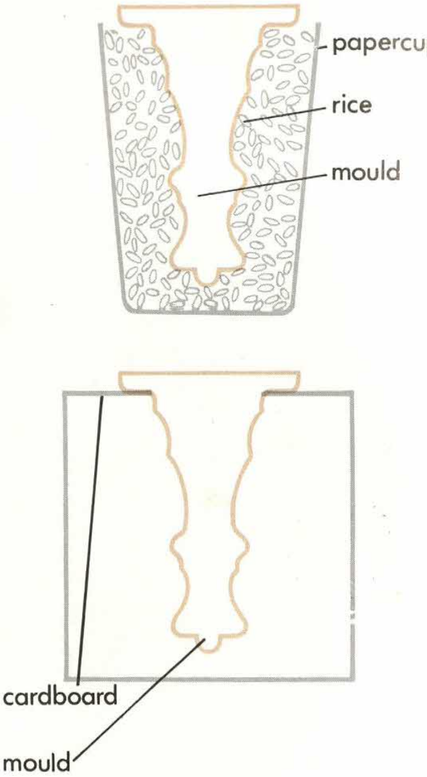
Steve Bicknell

The red and the green chessmen are coloured with pigment in the liquid resin. Like the white chess pieces they were then painted and rubbed to give them an antique appearance.

Supporting the mould

Once the moulds have been filled with resin they will have to be kept upright until they have cured. There are two ways in which to do this.

If the filler you have used is not heavy you can suspend the moulds in a piece of cardboard which has holes cut into it to fit the base of the mould. If the filler is heavy this might stretch the mould or pull it out of shape. To avoid this, hold the mould in a paper cup, slightly larger than the mould, and fill surrounding area with rice or fine sand.



Trevor Lawrence

Once the moulds have been half filled with the resin mixture and it has been spread around the interior, they are suspended from cardboard or placed in rice and then filled with resin.

To make casts with filler

For example, a set of chessmen as illustrated.

You will need:

Casting resin
Filler
Colour pigment—optional
Catalyst or hardener
Moulds
Felt—optional, to attach to the base or bottom of the cast

☐ Prepare a working area in a well-ventilated room.

☐ Work out the quantity of resin and filler you will need (see Plastics chapter 1). If you are using a manufacturer's resin, filler and moulds, they usually include the capacity of the

Chris Lewis

moulds. Of the total quantity required, use about 60% resin and 40% filler.

☐ Mix the resin and the filler by stirring in small quantities of the filler until it has dispersed in the resin. The black and white chessmen illustrated have been made with a white filler—the black pieces were painted after curing.

☐ Add the colour pigment, if required, and thoroughly mix the resin. The red and green chessmen were coloured in this manner.

☐ Leave the resin mixture to stand for a few minutes so that any trapped air bubbles can rise to the surface.

☐ Add the catalyst or hardener to the mixture and stir it carefully to avoid making air bubbles.

☐ Half fill the mould and allow the mixture to flow around the entire surface of the mould by tilting and flexing the mould with thumb and forefinger. This will ensure that all the detail in the mould is impressed and it also prevents trapping air.

☐ Suspend the mould from cardboard or pack it into a paper cup and fill the sides with rice.

☐ Fill the mould with the resin mixture and leave it to cure. Curing time will vary depending on room temperature and the type of resin used.

☐ To remove the mould from the cured casting, wash it in warm soapy water and then gently peel back the mould. Do not rip the mould off as you can damage either it or the casting.

If there are small imperfections caused by air bubbles in the cast you can mix a small amount of resin and catalyst and use a matchstick to apply it to the cast. Once it is dry the appearance will be perfect.

These chessmen were made with a white filler. The white chessmen were stained and then rubbed down to leave the darker colour in the recesses, giving them an antique appearance. The black chessmen were painted.

Finishing

You can stain the piece or colour it, if you did not use the colour pigment. To give it an antique appearance rub off the stain or paint while it is still tacky. This will remove the stain or paint on the raised surfaces leaving the recesses darker. Rub the piece until you obtain the desired effect. Leave to dry.

☐ If you glue a piece of felt to the bottom of the cast then you will not have to worry about the tacky surface. Alternatively, sand down the cured cast with wet and dry paper.

Picture making in satin stitch

This country landscape is worked in satin stitch which is very simple, even for those who have never used a needle. Because of the large stitches the work grows with surprising speed. You will need to use a frame, however, or the canvas will distort. You can work it in vivid embroidery cottons, as shown here, or tapestry wools—perhaps pastel shades, or several different tones of one or two colours, to match your colour scheme.

Overleaf the full-scale drawing of the country landscape is printed—to allow you to transfer the outlines easily on to your canvas.

Materials

Canvas. This embroidery is best worked on single thread canvas 16 threads per 2.5cm (1″).

Yarns. Tapestry wool or embroidery cotton are recommended, but you can experiment with crewel wool or other knitting and crochet yarns. However, if you are a beginner, it is wise to use one of the yarns recommended.

If a thread is too thick for the size of canvas it will be difficult to stitch and will look lumpy. If the thread is too thin then canvas showing between the stitches spoils the effect.

Needle. A tapestry needle has a long, polished eye that allows easy threading without fraying. Its rounded point separates the strands of canvas very slightly to allow the yarn to pass through. The needle should be in proportion to the thickness of yarn. A tapestry needle size 18 should be used for this embroidery.

Transferring designs

Felt-tipped pen. The simplest method is to place the canvas directly over the design and mark the lines with a light-coloured, felt-tipped pen. If you have difficulty seeing the design through the canvas you will have to try another method.

Transfer pencil. Trace design on to tracing paper. Using the transfer pencil draw over the lines at the back of the tracing paper with a solid or dotted line. Position the tracing paper with transfer lines facing canvas and iron over the tracing paper.

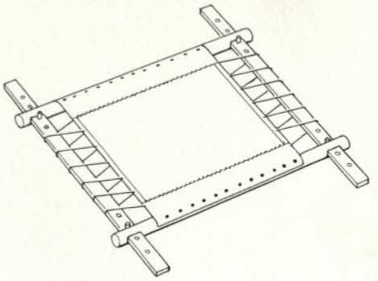
Thread tracing. Trace off the design on to tracing paper using a black felt-tipped pen. Place the tracing paper over the canvas, aligning the vertical lines of the design to the vertical threads of the canvas.

Tack the outlines through the tracing paper and on to the canvas.

Tear off the tracing paper.

Using a frame

An embroidery frame allows you to work with both hands and saves a lot of time, apart from preventing the canvas from distorting. You can buy a hand frame or one with legs. The principle of all frames is the same—to keep the canvas stretched taut, and it is a matter of personal preference which sort you choose. Illustrated here (fig.1) is the rectangular or slate frame which has a round bar at each end and a flat bar at each side. Webbing is nailed to the top and bottom bars and the flat side bars have a series of holes for adjusting to the length of the canvas. Webbing width varies from about 30cm (12″) to about 75cm (30″). It must be sufficiently wide to take the canvas without folding at the sides. Extra length can be rolled around the top and bottom bars and adjusted as required.


Paul Williams

1. *Slate frame for needlepoint.*

Framing up the canvas. Machine stitch a 2.5cm (1″) wide tape over the side edges of the canvas. Turn in the raw edges at the top and bottom of the canvas for 1.3cm (½″).

Match the centre of the top turned-in edge of the canvas to the centre of the top roller of the frame. Stitching from the centre outwards, oversew the canvas to the webbing.

Repeat at the bottom edge.

Insert the side slats and secure with the split pins or wooden screws provided. The canvas should be taut.

Thread a long piece of fine string into a heavy embroidery needle. Working from the centre of the side slats and tape and the centre of the string, lace the canvas to the side slats.

When both sides are threaded, pull evenly so that the canvas threads are perfectly horizontal and vertical. Tie the string to the frame at each end. If the canvas slackens while working, untie the string and tighten from the centre outwards.

Improvised frame. If you do not want to buy an embroidery frame you can use four pieces of wood nailed together on which you can stretch your canvas—attaching it with large stitches or with drawing pins or upholstery tacks. The important thing is that the canvas is tightly stretched to get a regular stitch tension.

Stitching hints

All stitches are worked in two steps on the stretched canvas. With your left hand beneath the canvas, stick your needle through the canvas from bottom to top. With your right hand above, pull the yarn through and then stick the needle through the canvas vertically from top to bottom. This may seem a rather lengthy process for a beginner but you will acquire the knack very quickly and find that this way of working is very satisfactory.

The tension of the stitches must be uniform. If the tension is too loose the surface of the finished work will look irregular. If the tension is too tight the canvas will become distorted.

It makes no difference where you begin stitching but work the whole part of the canvas stretched in the frame before moving on to another section.

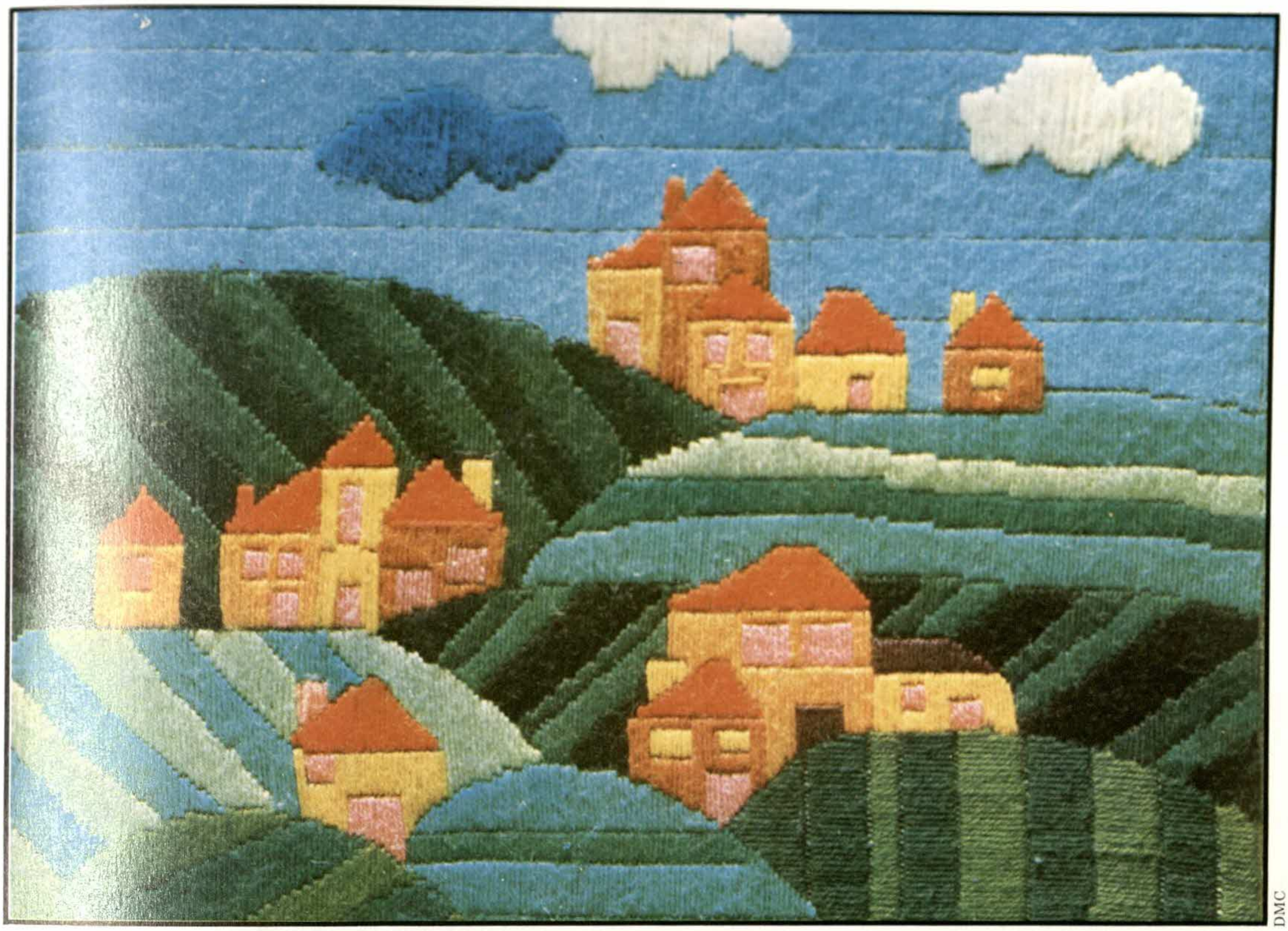
To begin stitching. Make a small knot in a yarn end and put the needle in at the front of the canvas about 5-7cm (2-3″) from the position of the first stitch. Bring the needle up from the back and work the first few stitches. Cut off the knot, thread the end into the needle and slip the yarn through the back of the worked stitches making a small back stitch to secure.

To end a yarn thread. Make a small back stitch on the back of the canvas and run under several stitches so that the wool is not cut off too short.

Length of thread. For satin stitch a thread about 90cm (36″) long can conveniently be used.

Thread the needle so that the offstanding hairs of wool are with the direction of the stitching. Run a hand lightly along the yarn. In one direction the hairs lie flatter than the other. This is the direction in which to stitch for easy, untangled working.

Straightening the design lines. If warp and weft of canvas are not absolutely perpendicular the design



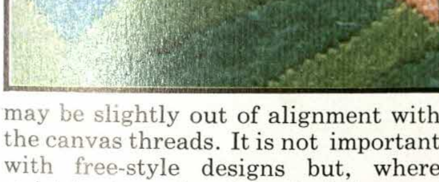
DMC

Country landscape—embroidered in vivid colours—is quick and straightforward to work in straight stitches.

may be slightly out of alignment with the canvas threads. It is not important with free-style designs but, where strict horizontal and vertical lines are involved, such as in the landscape illustrated, it is better to follow the canvas thread rather than the design lines. While embroidering this particular picture, correct the design lines, if necessary, by starting to stitch in the centre of each band of colour and working outwards.

Satin stitch

This is a basic flat stitch, sometimes called long stitch when the stitch is really long. When the stitches are in a straight row they are repeated over the same number of threads (fig.2). They must be parallel and not overlap.



2. *Working detail of satin stitch.*

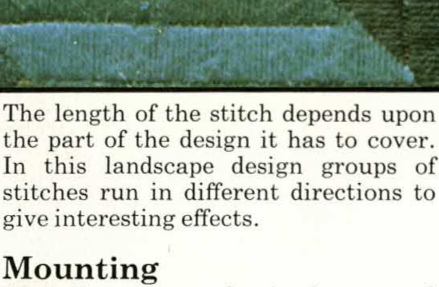
The length of the stitch depends upon the part of the design it has to cover. In this landscape design groups of stitches run in different directions to give interesting effects.

Mounting

A small canvas can be simply mounted on stiff cardboard; fold the canvas edges to the back and lace to the opposite edges with very large stitches. Medium size canvases can be backed by plywood 9mm (⅜″) thick—for larger canvases use 15mm (⅝″) thick plywood for strength.

Modern tapestries do not require any border—the sides of the worked canvas should cover the edges of the plywood backing.

Alternatively you can mount your tapestry on a plywood panel of a larger size that has been covered with a fabric that harmonizes with the tapestry.



Detail of stitching, actual size.

Another idea is to frame the tapestry like a painting.

To make the landscape

Measuring 41cm x 27cm (16¼″x10¾″)

You will need:

Single thread canvas 16 threads per 2.5cm (1″), about 50cm x 43cm (19½″x 17″)

Tapestry needle size 18

Tracing paper; one black, one light-coloured, felt-tipped pen

Suitable embroidery cotton or tapestry wool (see yarn chart, Needlepoint chapter 2, page 63, and chart overleaf).

To embroider the design

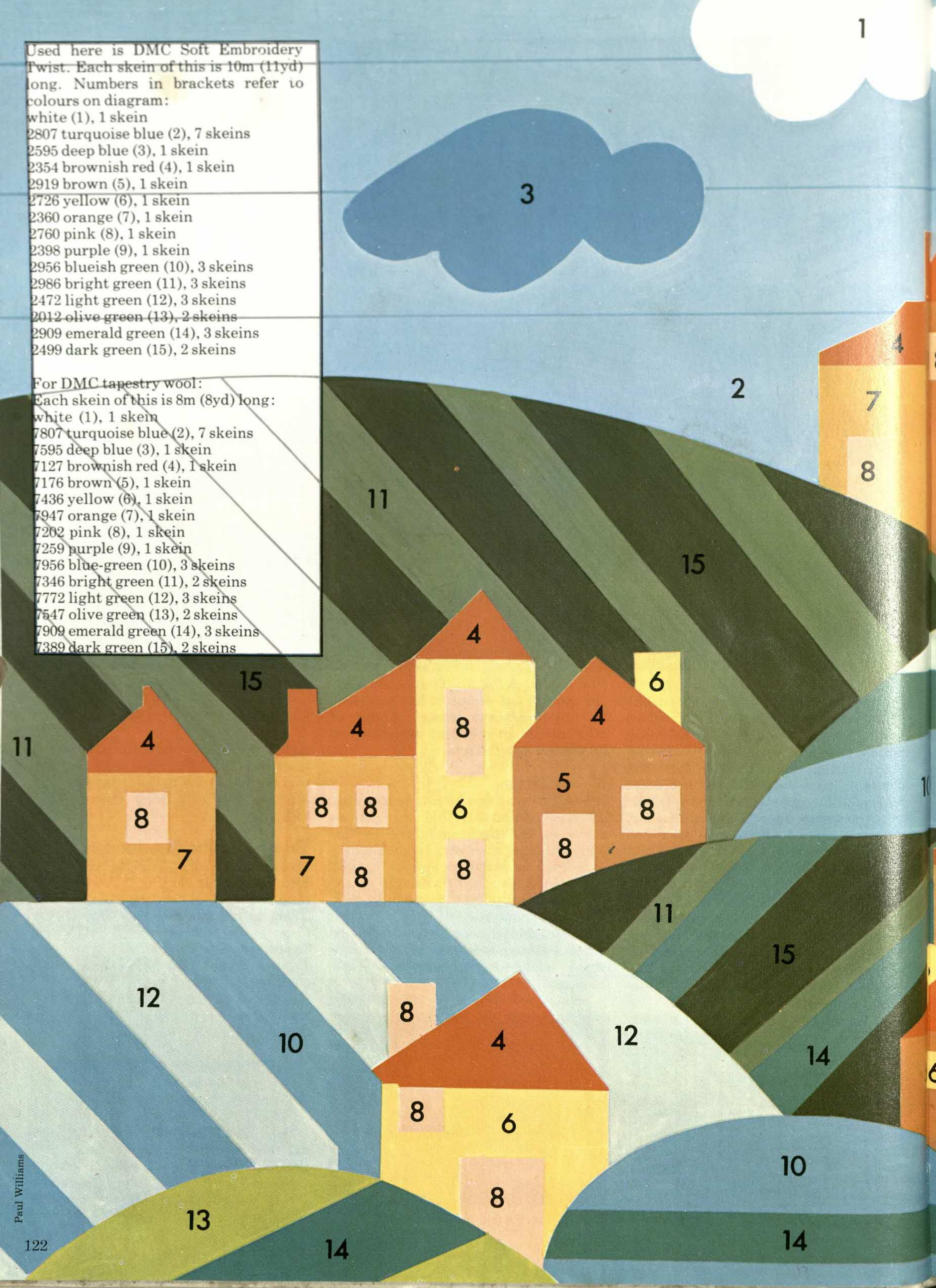
☐ Tightly stretch the canvas on an embroidery frame, as described above.

☐ Using satin stitch and following the general stitching techniques, embroider the landscape—following the numbered blocks of colour on the diagram.

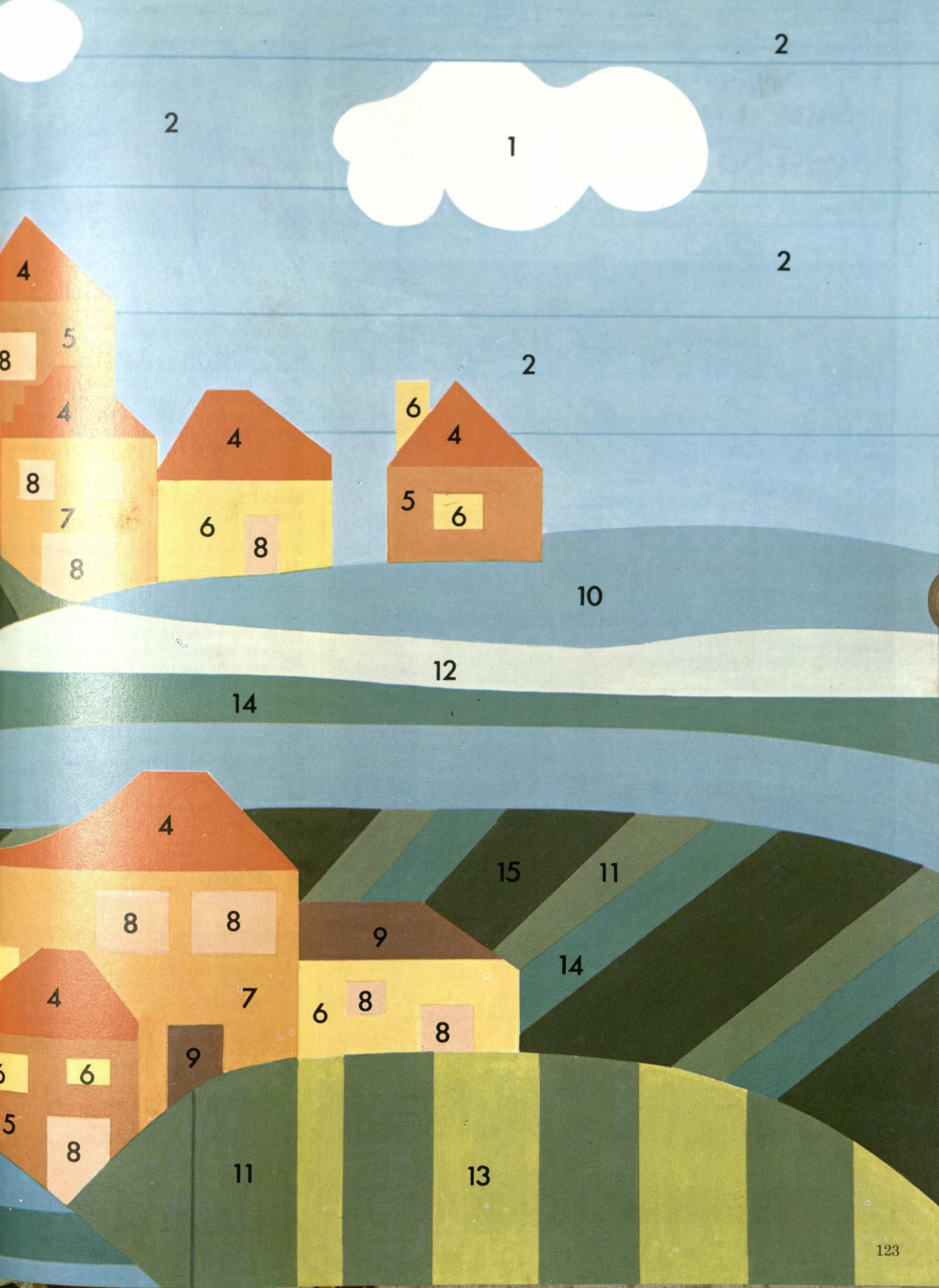
☐ When completed, mount the tapestry, if desired, following instructions given above.

Used here is DMC Soft Embroidery Twist. Each skein of this is 10m (11yd) long. Numbers in brackets refer to colours on diagram:
white (1), 1 skein
2807 turquoise blue (2), 7 skeins
2595 deep blue (3), 1 skein
2354 brownish red (4), 1 skein
2919 brown (5), 1 skein
2726 yellow (6), 1 skein
2360 orange (7), 1 skein
2760 pink (8), 1 skein
2398 purple (9), 1 skein
2956 blueish green (10), 3 skeins
2986 bright green (11), 3 skeins
2472 light green (12), 3 skeins
2012 olive green (13), 2 skeins
2909 emerald green (14), 3 skeins
2499 dark green (15), 2 skeins

For DMC tapestry wool:
Each skein of this is 8m (8yd) long:
white (1), 1 skein
7807 turquoise blue (2), 7 skeins
7595 deep blue (3), 1 skein
7127 brownish red (4), 1 skein
7176 brown (5), 1 skein
7436 yellow (6), 1 skein
7947 orange (7), 1 skein
7202 pink (8), 1 skein
7259 purple (9), 1 skein
7956 blue-green (10), 3 skeins
7346 bright green (11), 2 skeins
7772 light green (12), 3 skeins
7547 olive green (13), 2 skeins
7909 emerald green (14), 3 skeins
7389 dark green (15), 2 skeins



Paul Williams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Sew a big bad bean bag mouse

Cloth — toys 1

A variation on the bean frog is the mouse which is filled with split peas. These mice are very quick and simple to make and you can use any scraps of firm fabric that you may have around the house.

If you are making a mouse for a very small child, don't sew on buttons for eyes—embroider them or sew on felt circles instead. And do make sure the mouse doesn't land up in the bath or the peas will swell and burst the fabric!

Making the mice

You will need:

For each mouse:

Firm patterned fabric 33cm x 26cm (12"x10")

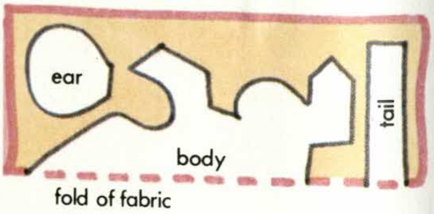
Firm plain fabric 26cm x 26cm (10" x 10")

Two 1cm ($\frac{3}{8}$") buttons for eyes

230 gm (8oz) dried split peas

☐ Make patterns for the mouse body and ears from the trace patterns given. A seam allowance of 5mm ($\frac{3}{16}$") has been included in the pattern.

☐ Following fig. 1, cut from patterned fabric one body piece, placed on fold of fabric, two ears and a tail 23cm x 4.5cm (9"x1$\frac{7}{8}$"). Cut the plain fabric similarly but omit the tail.



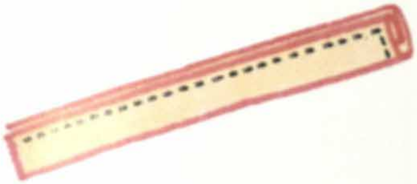
1. *Layout for patterned fabric.*

Victoria Drew

☐ Place the body pieces right sides together. Sew round outer edge, taking 5mm ($\frac{3}{16}$") seam allowance and leave open between X and Y. Snip curves well, paying particular attention to the sharp corners. These should be snipped as close to the seam as possible without cutting the stitches. Turn to right side.

These colourful mice have been made from scraps of furnishing cotton. Designed by Heather Mingay.

Steve Bicknell



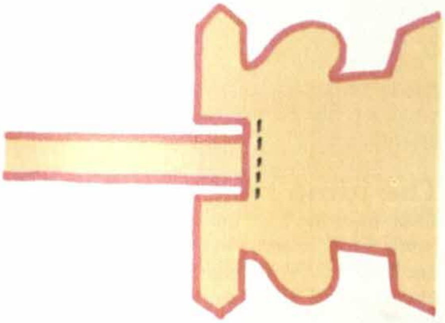
2. *Making up the tail.*

☐ To make tail, turn under seam allowance on both long edges and one short end. Fold in half along the length, wrong sides together, and topstitch together along folded edges (fig.2).

☐ Turn in seam allowance on mouse body between X and Y.

☐ Fill mouse with peas (don't make him too full or he will not sit up).

☐ Turn in seam allowance along opening X—Y. Insert raw tail end into opening and topstitch from X to Y to close opening and attach tail in one operation (fig.3).

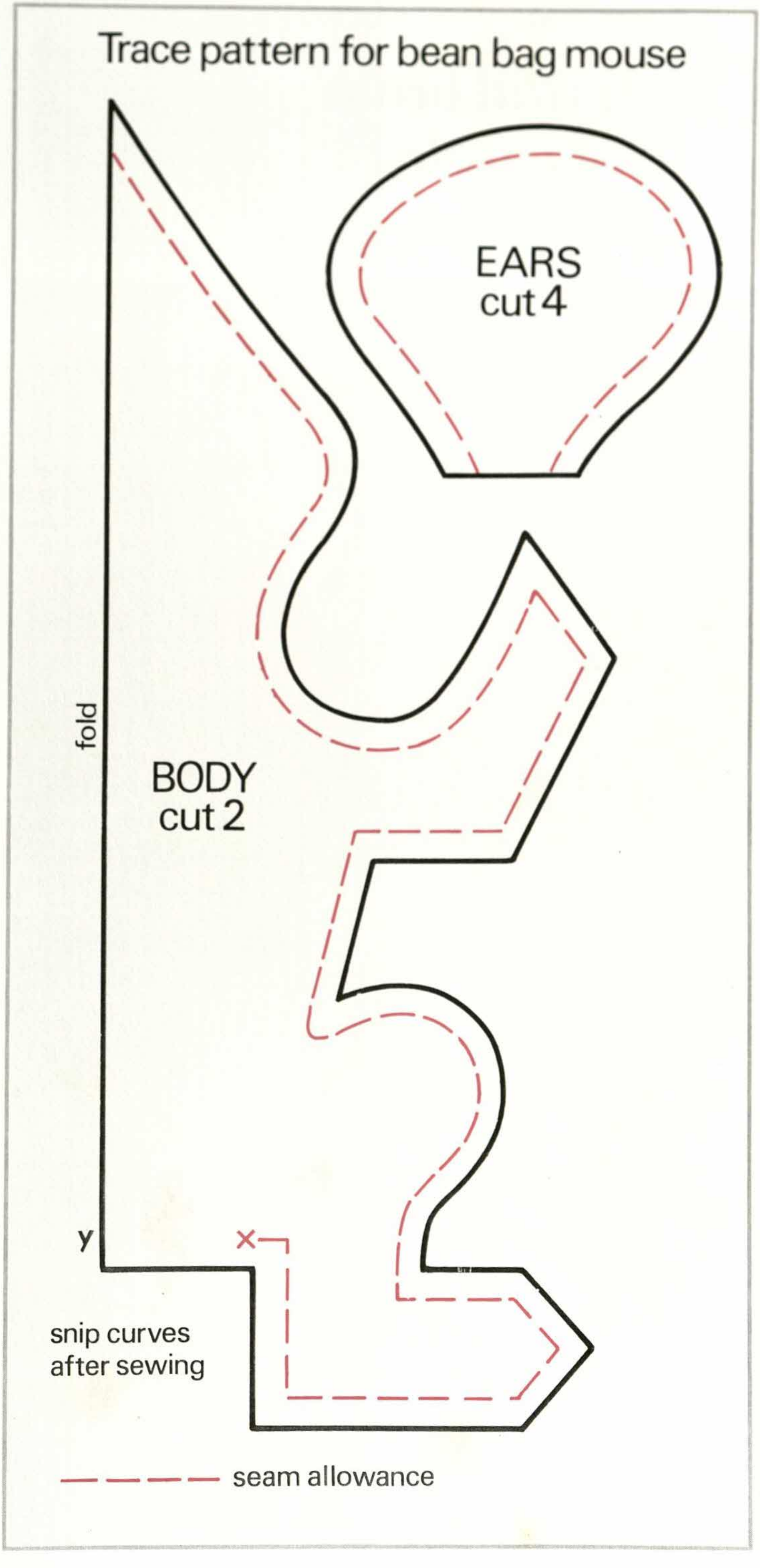


3. *Attaching the tail and sewing up the back opening.*

☐ Match a patterned ear piece to a plain one, right sides together. Sew round outer edge, leaving base open. Turn to right side.

☐ Turn in seam allowance at base to neaten. Pleat base and sew ear firmly to head. Make up other ear in same way.

☐ Sew on buttons or felt eyes, or embroider them, and knot tail to finish.

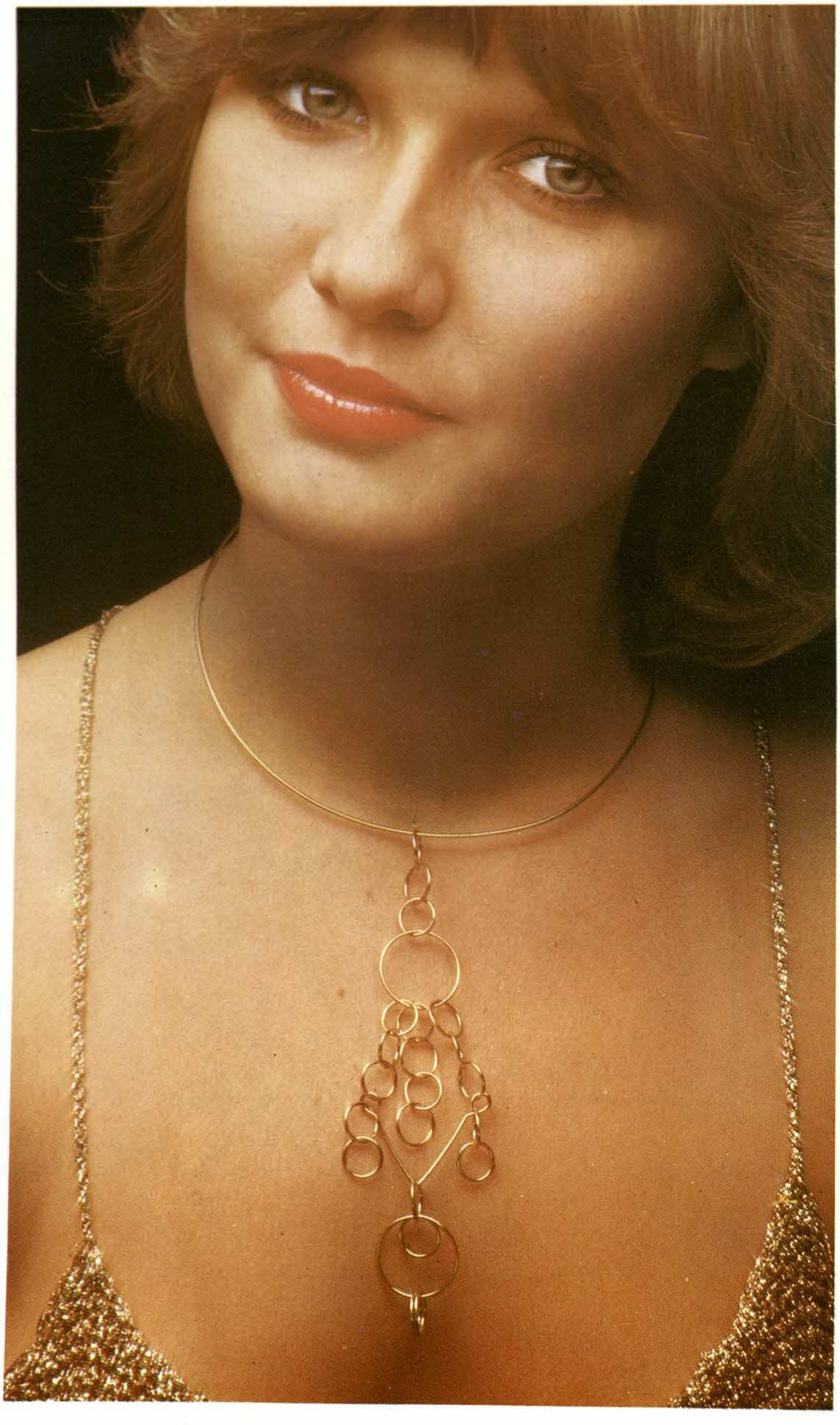


Trace pattern for bean bag mouse

Paul Williams

Beautiful brass wire jewelry

Metal 3


Steve Bicknell

Simple and effective jewelry made from brass wire is an excellent way of starting to create designs with metal, before going on to use more expensive silver wire.

Brass wire can be either hard or soft. Either kind will do for making jewelry but the soft wire will not retain its shape as well as the hard brass wire, so you should use a slightly thicker diameter when working with soft wire. You can experiment with any wire you can find as most are suitable for making jewelry—in any case it's good practice and should something turn out particularly well you can always copy it using silver wire—in which case you will know exactly how much wire you will need. And you will also have the expertise to make any intricate curls that might be required. The hook and eye for a pendant or necklace can sometimes be awkward so, if you have off-cuts of wire, practise making some so that when you use expensive wire you will not have any difficulty in achieving first class results. The brass wire does tarnish so it will need polishing occasionally. Alternatively you can cover it with a coat of metal varnish.

The jump ring necklace

This necklace is based on a series of jump rings assembled and attached to a neck band. You can vary the number and sizes of the jump rings to make a smaller or larger necklace.

The finished necklace is 37cm (15″) long. If you want to vary the length hang a piece of string around your neck at the required position, measure the length of the string and add 5cm (2″) for the hook and eye at the back.

You will need:

42cm (17″) of 1.6mm (gauge 14-16) hard brass wire

90cm (36″) of 1mm (gauge 18-19) hard brass wire

Tools. Round-nosed pliers, metal file, diagonal wire cutters or end cutters.

☐ From the 1mm (gauge 18-19) wire make 21 jump rings 1cm ($\frac{3}{8}$″) in diameter and 2 jump rings 2cm ($\frac{7}{8}$″) in diameter.

☐ Cut off 7cm ($2\frac{3}{4}$″) of the wire, file the ends and bend the wire into a V-shape. Make a hook at either end as shown in the photograph.

☐ Make the neckband from the 1.6mm (gauge 14-16) wire by shaping it with the fingers and making a hook and eye at the ends as in figure 1.

☐ Assemble the jump rings as in the photograph and attach them to the neckband. Spray the necklace with

This necklace is made up of jump rings of varying sizes. It can be made smaller by decreasing the number of jump rings. Designs by Gad Charny.

The ear-rings and necklace are based on an abstract design starting in the centre with a circle then a triangle.

metal varnish to avoid discolouration.

The necklace with ear-rings

The finished necklace is 37cm (15″) long.

You will need:

95cm (36″) of 1mm (gauge 18-19) hard brass wire

42cm (17″) of 1.6mm (gauge 14-16) hard brass wire

A pair of ear-ring findings with a hook or eye to which a jump ring can be attached.

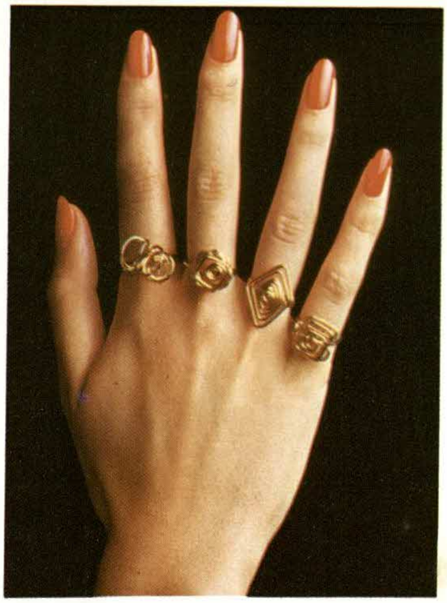
☐ The neckband is made from the thicker wire. File the ends and make a hook and eye.

☐ The ear-rings are made from 26cm (10″) of thinner wire and based on an abstract design. Start the piece from the centre and finish by assembling with jump rings.

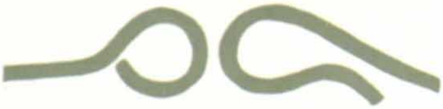
☐ The pendant is made from 40cm (15″) of the thinner wire and assembled with a number of jump rings.

The rings

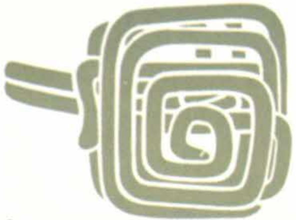
The rings can be made from 1mm (gauge 18-19) wire. You will need between 12cm (5″) and 25cm (10″) for a ring, depending on whether you take it around the finger once or twice and how intricate the design is. Always work from the inside of the design and finish by making the shank.



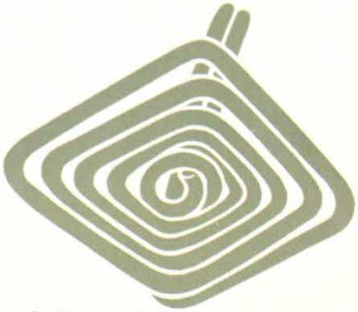
The rings can be made with one or two coils of wire around the finger. If one coil is used the ends must be secured to prevent the ring from opening.



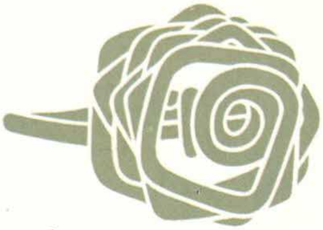
1. *The hook and eye for the neckband.*



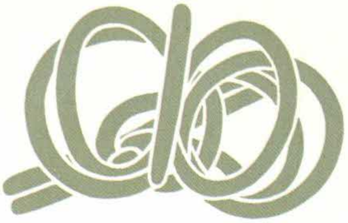
Simple coiled ring based on a square.



Raised diamond has a circular centre.



Layered squares built around a curl.



Series of loops at different angles.

Trevor Lawrence

The chart below shows the approximate lengths of wire in different thicknesses. It will give some idea of length when you buy large quantities of copper, brass tinned copper or silver-plated wire.

Thickness =		**Gauge**		**metres per kg**	**yards per lb**
		B&S (USA)	**SWG** (UK)		
1.6mm	=	14—	16	56	28
1.5mm	=	15—	17	60	30
1 mm	=	18—	19	140	70
.8mm	=	20—	21	220	110
.6mm	=	22—	23	400	200

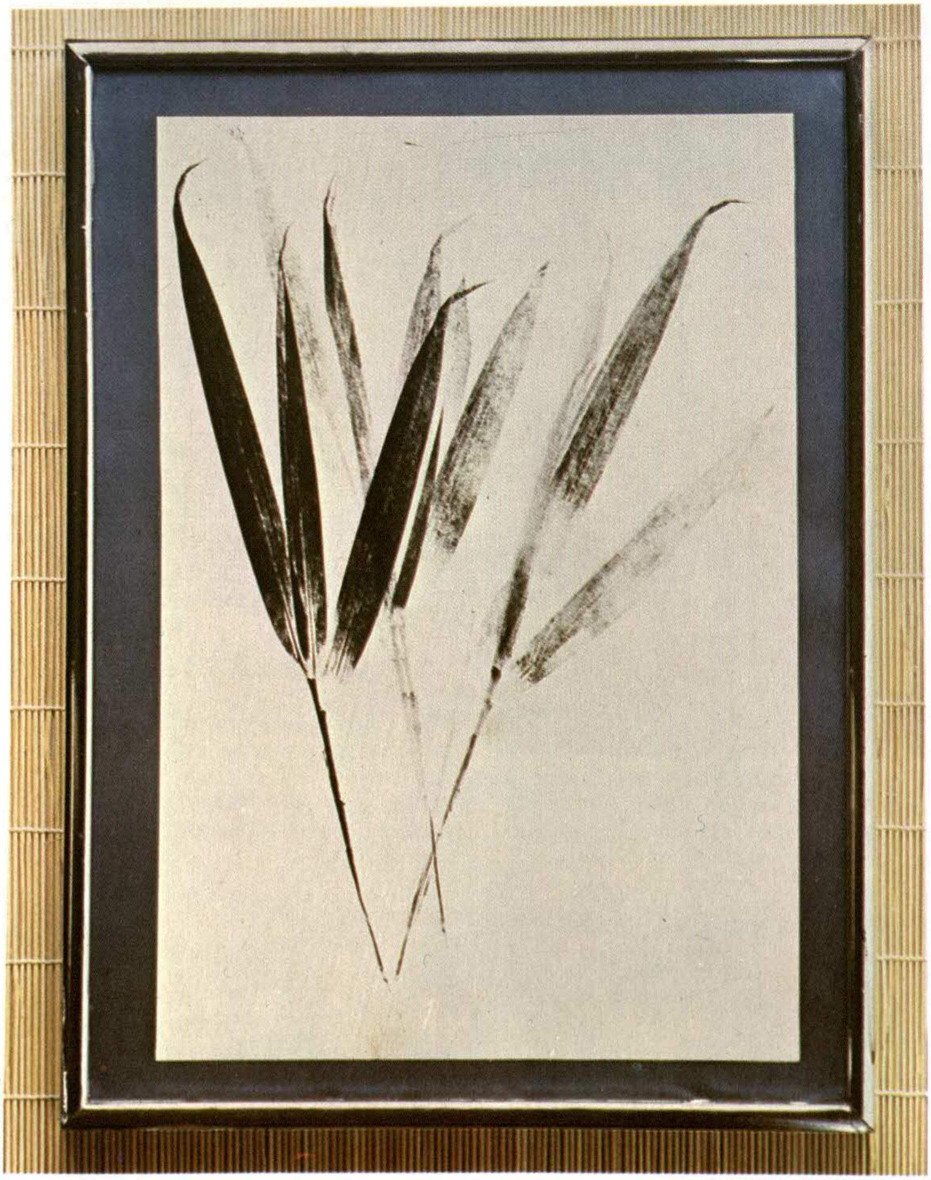
Pictures printed from nature

Colour — printing 3

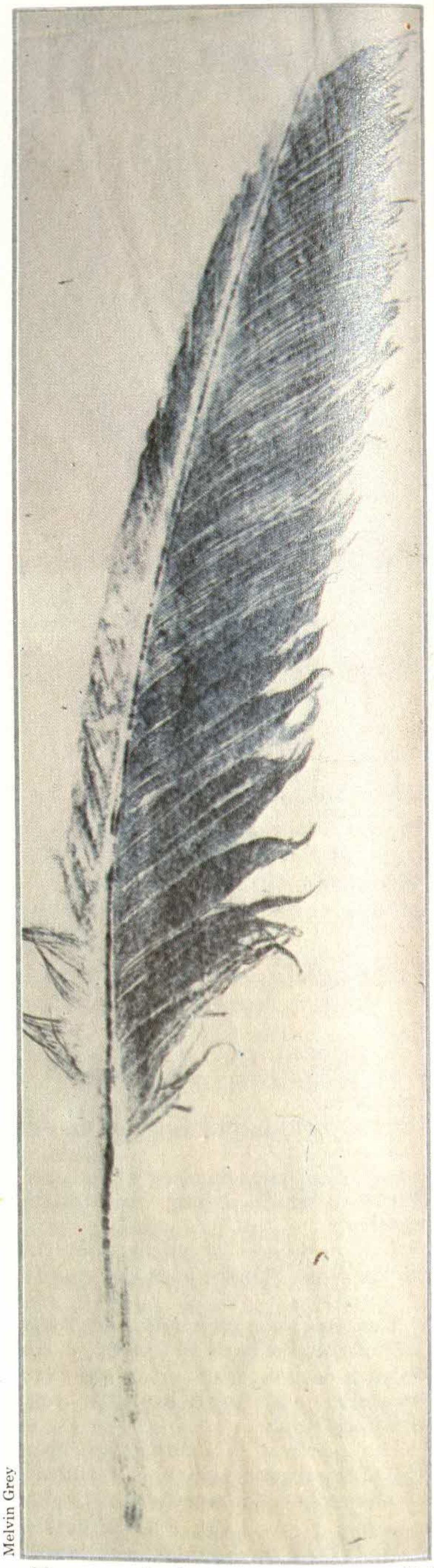
After experimenting and having fun with basic printing, repeating printed impressions for an all-over design, you will have developed a feel for working with various paints and how to apply them to best advantage. But printing from found objects is not limited to making gift wrappers and boxes; interesting decorative pictures can be made from perfect prints, used singly or combined to build up a scene.

Some objects, such as a leaf with its intricate veining system, make beautifully decorative prints all on their own; a feather, too, has great possibilities for making interesting patterns. And the simple arrangement of bamboo impressions makes a lovely picture with the delicacy of a Chinese print. Decoration apart, the tree or bird lover will find this an excellent way to build up a collection of leaf or feather specimens.

From here you are ready to progress to printing objects together to build up a complete picture.



Melvin Grey



Melvin Grey

Above: a feather creates a beautiful design with fine detail.

Left: this delicate picture was printed entirely with bamboos.

Right: leaves are perfect for printing, being flat with intricate veining.

Jerry Tubby

How to start

Rather than deciding on a subject and drawing a picture before trying to find suitable objects to print it, press down anything that takes your fancy and allow the printed impressions to suggest ideas to you. In the picture illustrated a piece of bracken suggests a fir tree. Smaller ferns look like fir trees in the distance and the concept of a forest is gradually built up. It is amazing how one's eyes and brain will read pictures and forms into shapes which are only just indicated. For example, as you lie in bed, cracks on the ceiling become faces or animals. There is also the well-known instance of 'pictures in the fire'.

Your own stamp

You can exploit this ability and imagination in a practical way by making use of a variety of shapes and textures. Experiment with objects you find in the garden or around the house. The fascinating part is that the same 'find' will initially suggest something different to different people. This kind of printing stamps your personality on the finished picture in much the same way as handwriting does—the alphabet is the same but the finished result is yours alone.

A print from a piece of crumpled paper can become things as far apart as an area of turbulent sea, an expanse of sun-dried ground, rocks or the crumpled satin in the sleeve of an elegant Elizabethan gown.

Details

Once you have established the subject of your picture, you can attend to the details. Here, printing from something very similar to what you are portraying can come in useful. The lace ruff on the Elizabethan gown might be printed from a paper doily or even from real lace.

Once you have tried this kind of printing you will begin to look at all sorts of objects around you with an eye to their printing potential. Plants, grainy wood, corrugated cardboard and bits of machinery, like chains and cog wheels, all have a raised shape or pattern which will print.

Preparation

Before you start your picture, prepare adequate working space. Clear the decks and spread newspaper or old cloth over your working surface.

As well as the paint and the objects to be used for printing, you will need a fairly large, stiff brush—a 13mm to 38mm (½″ to 1½″) hog-hair type is fine—and some printing paper like cartridge, poster or sugar paper. You can buy sugar and cartridge paper in a wide range of colours if you prefer to start off with a coloured background. Have ready some newsprint for trial printing, newspaper for support and some rags for wiping your brush and for cleaning up generally.

Masking. Scissors and a sharp trimming knife are useful for cutting paper to mask out shapes, if you wish to print a pattern or texture with a white area preserved within it. In the picture illustrated, the window and door frames were done by cutting out paper shapes and positioning them on the white paper before printing the wall texture. You may need little tabs of double-sided adhesive to fix these shapes securely while you print.

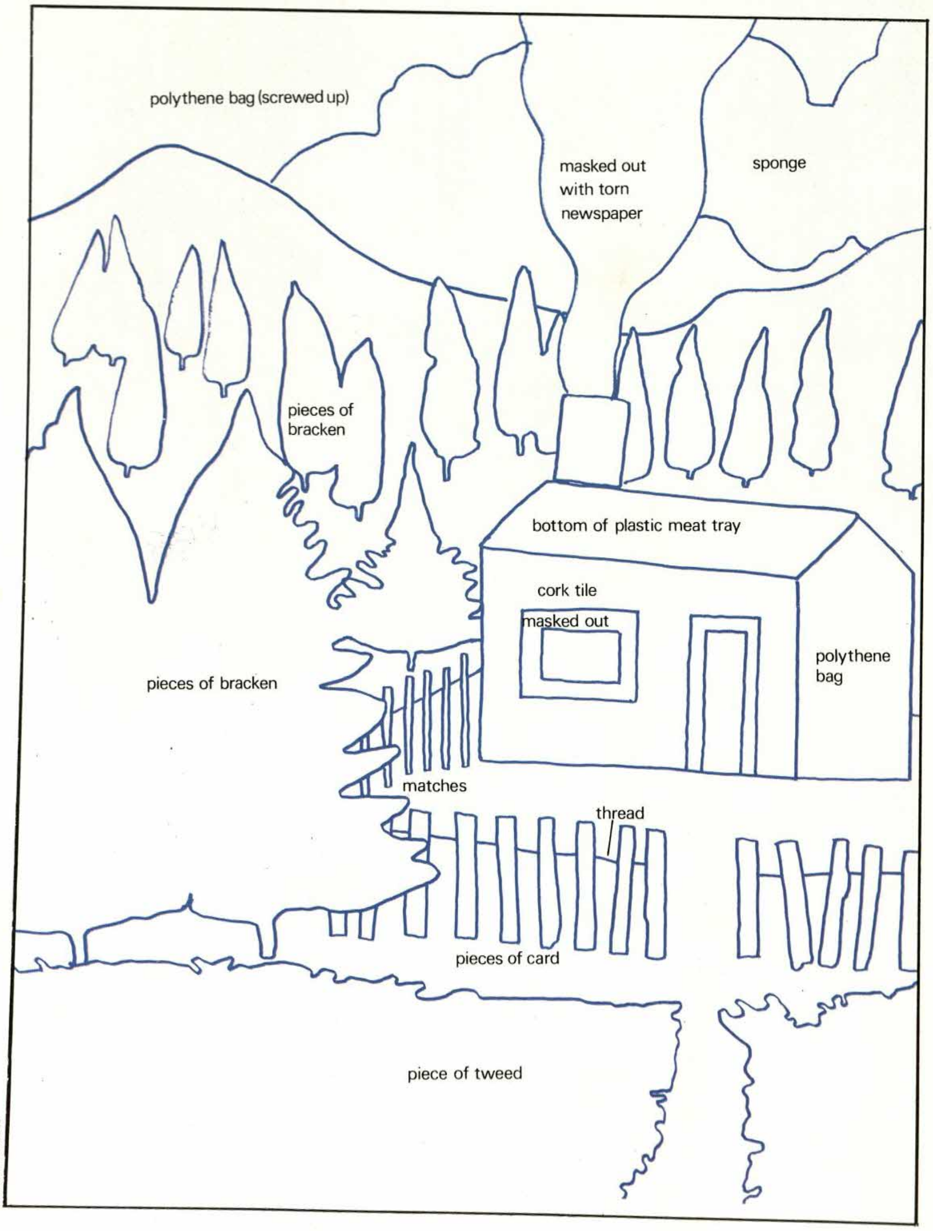
Masking out is also a good way to give sharp edges to printed areas where these are necessary.

To print

For this picture powder paint was used, mixed with water to a stiff consistency. This splodgy quality suited the picture better than the more precise effect of printing ink.

To print, brush the paint on to the object to be printed; place it, paint side down, on the printing paper, put a sheet of newspaper over the object and press evenly all over. If some of the objects are very hard, put a soft pad of newspaper, some felt or a magazine under the printing paper.

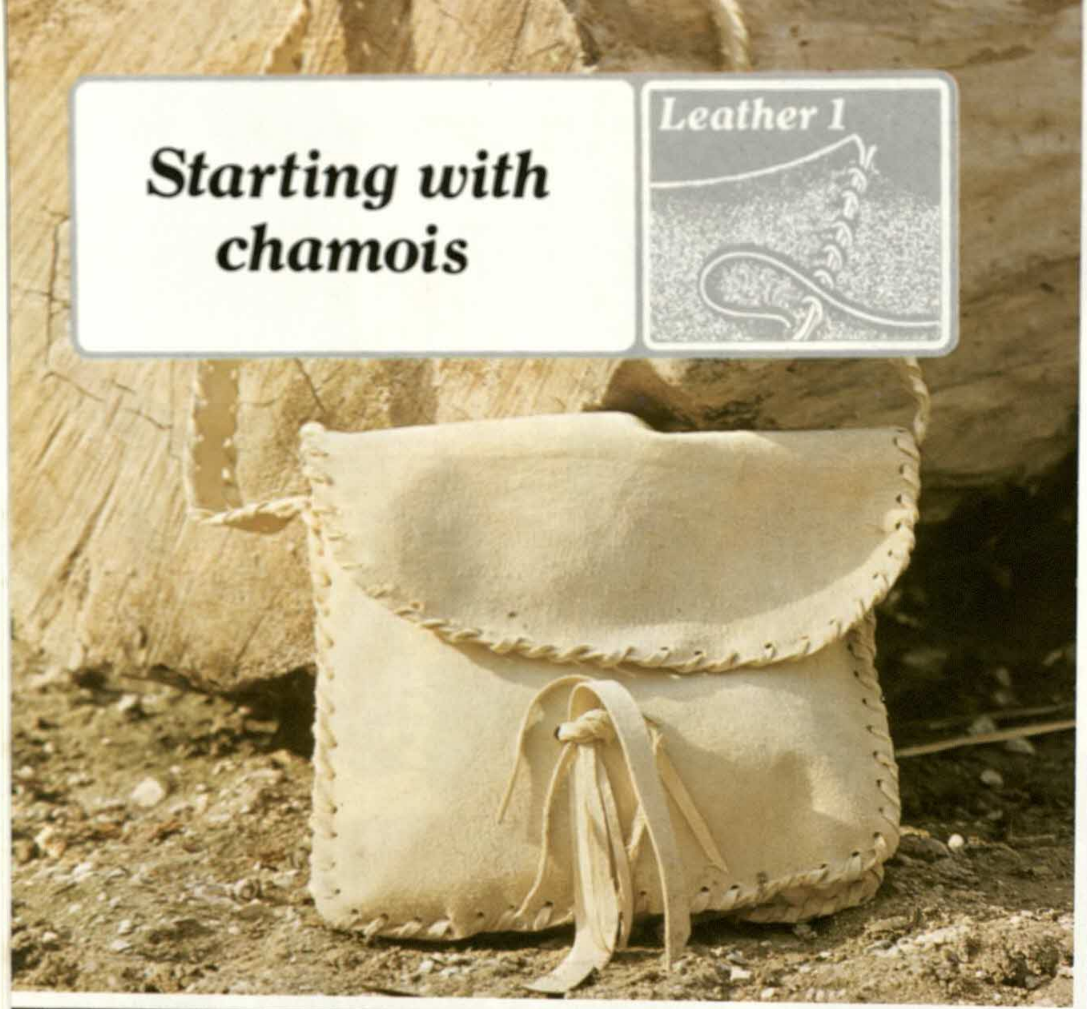
In your design make use of the white (or coloured) area of the paper. There's no need to fill up the whole background with printed objects. Also, don't use too many colours; in fact, it is a good idea to begin with a one-colour picture and experiment with the textures which can be achieved. You will find the textural differences in the printing objects themselves provide a wide variety of tone and interest.

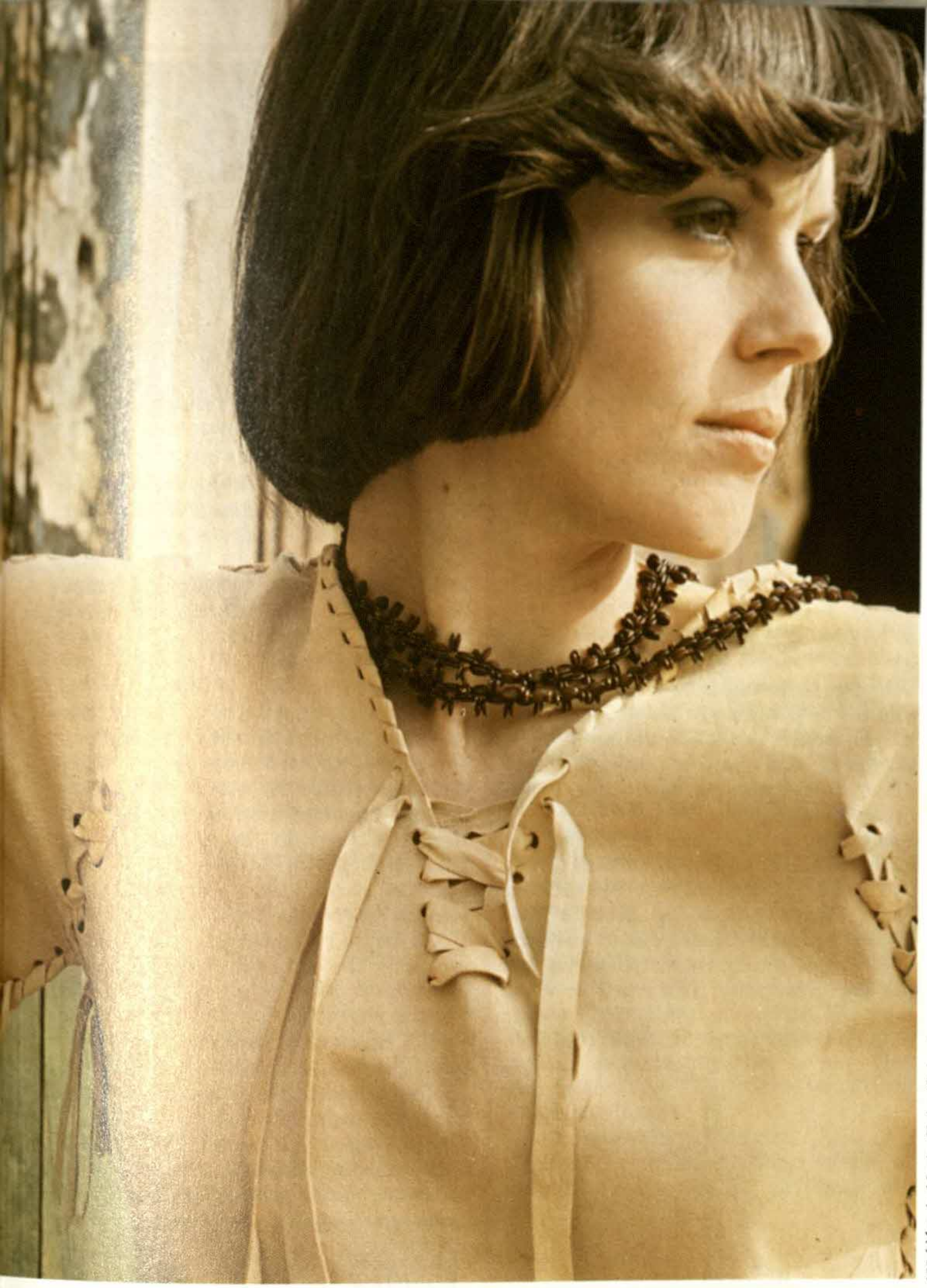


Janet Allen

Right: the most humble natural or discarded objects create effective prints. Left: working outline for picture.

Starting with chamois





100 Idées de Marie Claire/Galand

Making chamois clothes need not be difficult or complicated; the simple designs shown here involve no stitching—you simply punch holes and thong the pieces together. The moccasins and blouses are made very simply from your own measurements so will fit all sizes.

Animal skins like leather, suede, split sheepskin and chamois make perfect casual clothes—being supple, soft and extremely comfortable to wear. And now that other natural materials, such as cotton, wool and linen have increased so much in cost, there is no longer a great gap between the cost of natural fabrics and natural skins.

The loose fit of these designs makes them ideal projects for chamois but you could use other skins that are easier to get hold of or that you prefer. You will find all types of skin in markets and large department stores and there are also individual shops in many towns that deal in nothing but skins. It is best to shop personally for skins, especially chamois, as only you can decide whether the texture and colour is right for the object you want to make.

Sham chamois

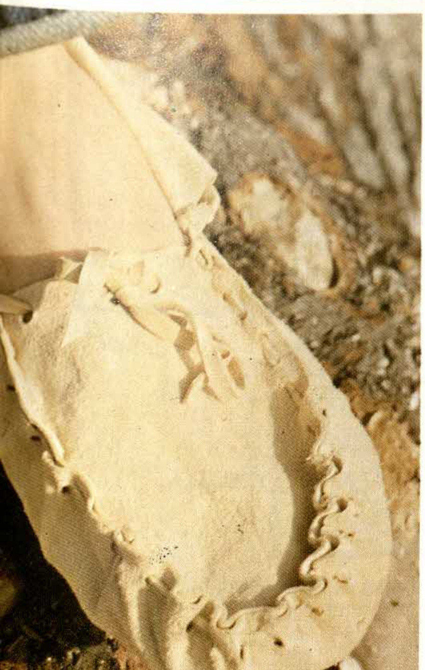
Chamois used to be the skin of the mountain antelope of that name, but the large-scale sale of chamois as wash leathers as well as clothes would have meant the extinction of this animal years ago; so nowadays chamois is the softer side of the skin of a sheep or lamb, shaved away from the outer hide. It differs from split sheepskin only in the tanning process. Split sheepskin is tanned by formaldehyde, chamois by fish oils. Skins vary in size but an average chamois skin is 50cm (20″) square. Split sheepskins are usually larger—about 60cm (24″); they are more expensive than chamois but are much tougher in wear and they wash better too.

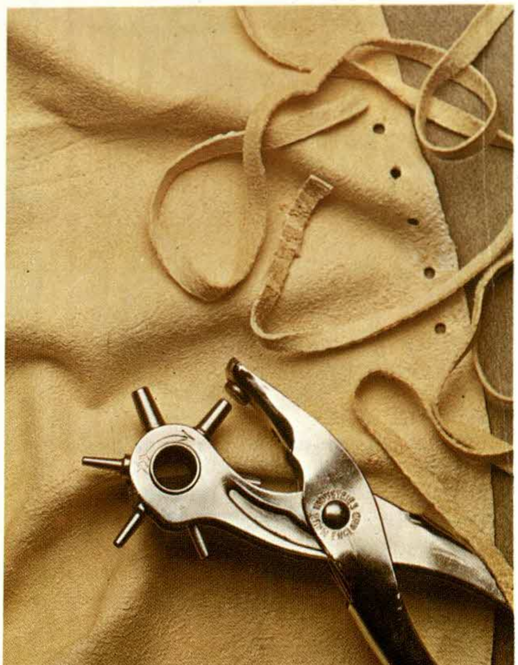
Choosing skins

Look at the skins carefully for blemishes, stains, holes or thin patches before you buy them. When you are buying a lot of skins for a garment, match them carefully in texture and colour.

Fashion designs

There are obviously limitations to the clothes you can successfully make from chamois. Because this skin does not hold its shape, you should only choose loose designs—those that do not require any fitting.





Steve Bicknell

Far left (above): simple shoulder bag.
Far left (below): long-sleeved blouse.
Above left: short-sleeved blouse.
Centre left: comfortable moccasins.
Left: basic materials and equipment.

Washing and caring

Leather, suede and chamois all look just as good when they are old and worn but, whereas most leathers and suede need to be taken to a special dry-cleaner, you can wash chamois easily at home. Rub it with a pure, mild soap—not perfumed—and not a detergent. Rinse, but leave some soap in the skin at the end which will keep it supple. A drop of baby oil in the final rinsing water will also stop it drying out and becoming hard.

Pull it gently back into shape and dry it flat on a towel; don't hang it up or it will stretch. Dry it immediately after washing, away from direct heat.

Odd spots can be rubbed off with a manufactured rubber like Persuede: don't use white spirit—this will remove the colour from the skin.

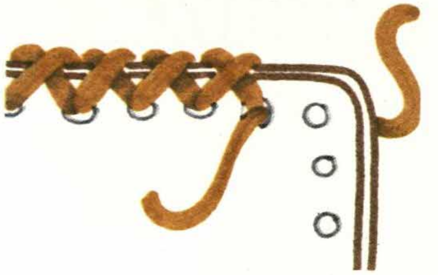
Tools and equipment

None of the designs shown here is sewn so needles and thread are not necessary. You will need a leather punch, thonging (which you can buy in various thicknesses, either flat or rounded) and a pair of sharp scissors. A lacing needle or bodkin makes thonging easier.

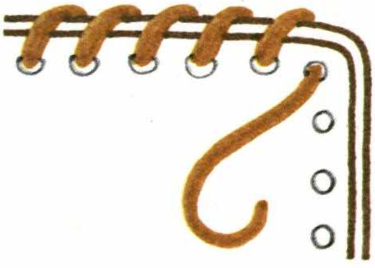
Thonging

Punch holes to suit the thickness of the thonging you are using. The thonging in our designs is simply flat strips of chamois, about 6mm ($\frac{1}{4}$") wide. These are cut with sharp scissors or a Stanley knife or scalpel held against a steel rule.

There are three ways of using thonging in the designs shown here: criss-crossing (fig.1); straight overcast thonging (fig.2); and 'stitch' thonging, where the thong is simply threaded through two holes on one side then two holes on the other side (fig.3). This method is like sewing, pulling up the chamois, puckering it slightly.

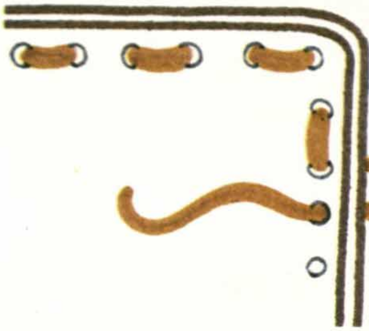


1. *Criss-cross thonging; start in the centre of one long thong and work with both ends.*



2. *Overcast thonging.*

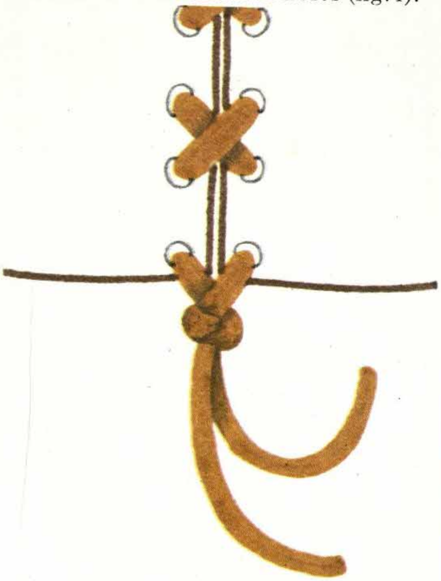
Victoria Drew



3. *'Stitch' thonging.*

When calculating how much thonging you need, allow three times the overall length of the work for ordinary over-thonging and 'stitch' thonging and allow five times as much for criss-cross thonging.

Start and finish either by gluing the ends of the thong for about 2cm (1") to the inside of the skin or by tucking them away behind the first or last 'stitch'. Another method is to knot the ends inside the garment if this is not too uncomfortable. You can also leave long ends of the thonging hanging free outside the first and last holes (fig.4).



4. *Leave long ends of thonging hanging for a casual finish.*

Cutting out

Place the pattern on the wrong side of the chamois and hold in place with weights. Don't use pins. Mark out the pattern shape with chalk then cut out the chamois with sharp scissors or a Stanley knife.

100 Idées de Marie Claire/Galand

To make the bag

You will need:

One chamois skin, 50cm x 40cm (20"x 16"), or a piece of chamois 36cm x 25cm (14"x10") for the back; a piece 25cm x 18cm (10"x7") for the front; a strip 120cm x 4cm (4'x1$\frac{1}{2}$") for a gusset between the front and back and to form the strap. (You will probably have to join strips for these.)

Thonging.

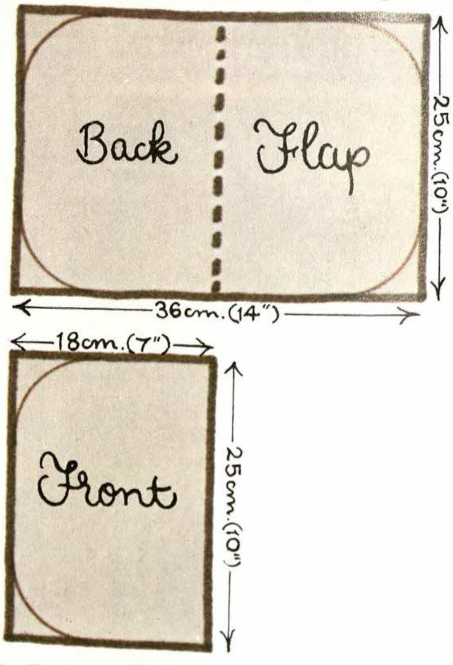
☐ Following fig.5 make paper patterns for the front and the back of the bag. The curves at lower edge of back, front and flap should be indentical. So cut out one curve and cut the others from it. Place them on the chamois in the best positions and cut out. Also cut out the strap 120cm x 4cm (4'x1$\frac{1}{2}$"), joining if necessary.

☐ At 13mm ($\frac{1}{2}$") intervals, punch holes all along the strip (or strips) 6mm ($\frac{1}{4}$") from the edge. If joining strips, punch holes across ends.

Punch holes all round the edges of the front, back and back flap pieces.

☐ Join strips into a ring with overcast thonging at narrow ends.

☐ Starting at one top edge of front of bag, join one long edge of gusset strip to front, down one side, along the



5. *Patterns for bag back, flap and front.*

bottom and up the other side, with overcast thonging.

☐ Matching the back to the front, join the other long edge of the gusset strip to the back in the same way. Leave the rest of the strip hanging to form the strap. Thread the thonging through each side of the strap and along the rest of the back of the bag which forms the front overlap. Also thread thonging along straight front edge to strengthen it.

☐ Punch two holes 25cm (1″) apart at centre front of bag just below where flap falls. Thread a few strips of chamois and knot loosely.

To make the moccasins

You will need:

A piece of chamois 50cm x 44cm (20″x 18″).

Thonging.

☐ Make patterns for base and uppers by drawing your foot outline on paper (fig.6). Make a base pattern by adding 6cm (2½″) all round foot and a further 6cm (2½″) for back flaps (a) and (b).

☐ Pierce holes with the punch at 13mm (½″) intervals all round each piece, 6mm (¼″) in from the edge, except where shown. The number of holes punched round the outer edge of the uppers should be the same as the number round the corresponding edge of the base.

☐ Thong the upper to the base around the front using the 'stitch' method, threading through two holes on one side then through two holes on the other side. Pass another thong through the holes around the sides of the base, round the back and knot it at the front on the upper to act as a draw-string. Turn back the sides (a) and (b) to hide the thonging.

To make the blouses

You will need:

Two large skins for the sleeveless blouse; three large skins for the long-sleeved one. Thonging.

☐ Following fig.7 for long-sleeved blouse or fig.8 for short-sleeved blouse, make a front and back pattern and a sleeve if required.

As the patterns are made to your actual measurements it means they can be made to fit all sizes, adults and children alike.

☐ Cut pieces from chamois.

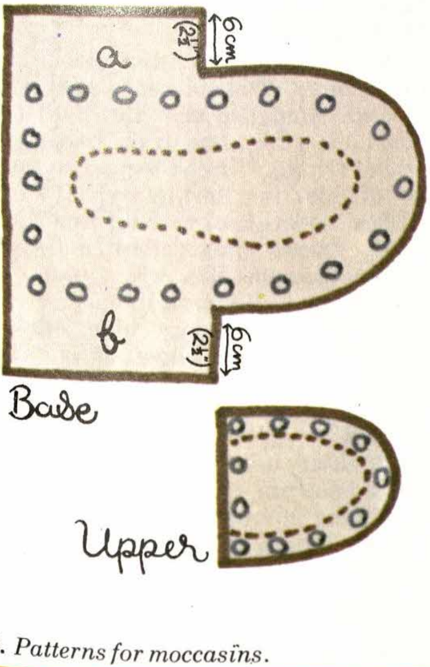
☐ Using a punch, punch holes all round pieces except at hem edge and sleeve hem. Make the holes 13mm (½″) away from the edge and about 13mm (½″) apart. Make sure that the number of holes and their position on each side of a seam correspond.

Long-sleeved blouse. Work overcast thonging round the neck, leaving strips of thonging hanging loose at the bottom of the collar bones. Then criss-cross another thong at the lower edge of the V-neck, starting at the bottom.

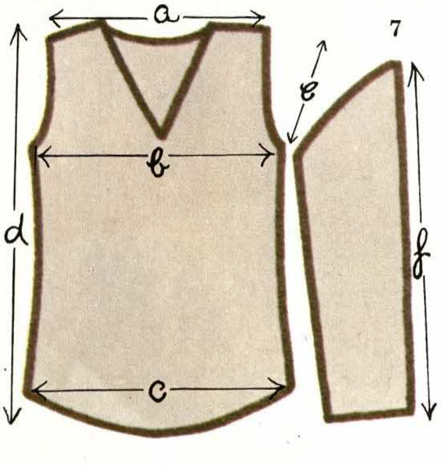
☐ Thong the shoulders, side seams and the armholes as far as the side seams in overcast thonging. To finish ends of seams, knot the thonging and leave to hang as shown. Criss-cross the sleeve seam. At the wrist, thread another two strips through the last hole to hang as a trimming.

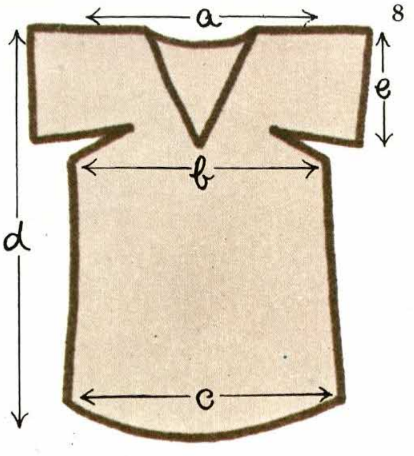
Short-sleeved blouse. Work overcast thonging around neck, leaving strips of thonging hanging loose at the bottom of the collar bones, then criss-cross another thong at the lower edge of the V-neck starting at the bottom.

☐ Thong armhole V as far as the side seams criss-cross fashion. To finish ends of seams, knot the thonging and leave to hang as shown. Join side seams and underarm sleeve seams with overcast thonging.



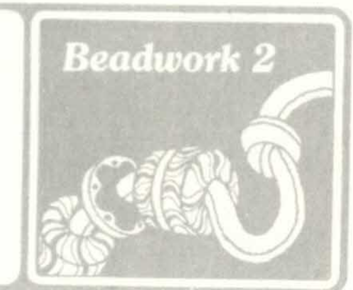
6. *Patterns for moccasins.*





7. *Patterns for long-sleeved blouse.*
8. *Patterns for short-sleeved blouse.*
a = *width from shoulder to shoulder.*
b = *½ chest measurement plus 5cm (2″) for ease.*
c = *½ hip measurement plus 5cm (2″) for ease.*
d = *length from shoulder to hip.*
e = *depth of armhole.*
f = *length from shoulder to wrist.*

Threading bead fringes



If you can thread beads then you can make bead fringes. This simple form of decorative beadwork transforms ordinary garments and accessories into really original outfits. You can add fine fringes to lampshades and blinds or, on a larger scale, make a beaded curtain!

Because beads are available in so many different shapes and sizes, before embarking on a project think carefully about where your beading is to be used. Is it for a garment or perhaps a bag? How often will the object be used; need it be hard-wearing or is it to be hung up like a lampshade? Think about weight, size and use. You would be unwise to attempt a beaded door curtain in fine glass beads, but wooden beads, which are large and less weighty would work very well. Similarly, large wooden beads could look cumbersome if used on a dress.

The type of needle you will need will depend upon the beads chosen. The finest beads require special beading needles which are like long, fine wires. For larger beads, ordinary sewing needles can be used.

Working a fringe

It is much easier to work a fringe separately from the object you want to fringe, rather than working on the object itself. You will need a base of some kind, however, so choose a suitable cord or ribbon. Some examples in the photograph show brown soutache braid, white piping cord, red fancy braid, black velvet ribbon and navy, flat silk binding used as bases.

Pin the cord to a polystyrene block or some similar type of material and sew your beads on to the cord. Once the fringe is made it can be applied by either sewing or gluing it to the object you are fringing.

Note: When working these beaded lengths do not pull the thread too tight or the string will not hang correctly; it will be stiff because the beads are jammed against one another. Always test that there is a little slackness in the thread before finishing.

Some fringe patterns

Figs. 1-5 show the methods of producing the fringes in the photograph.

Lattice fringe is worked on braid using bugle (cylindrical) beads, rocaille beads and drops at ends (stop beads).

☐ Start on the right, fasten thread back up through beads as shown and thread on more bugles and small beads to complete left side of lattice.

☐ Pass thread along braid to next starting point. Proceed as before but pick up small bead from first strand to make the lattice design.

Striped fringe is worked on to piping cord and is simple to do.

☐ Fasten the thread to the cord and thread up 18 medium-sized brown beads, one large bead, one stop bead.

☐ Work back through beads to piping cord to pass thread to next starting point. Begin next strand by threading 20 small white beads, one large brown bead and the stop bead.

☐ Pass the needle back through all the beads in the strand and into the piping cord. Now repeat the first strand. Continue working in this way.

Jet fringe. Fasten thread on to fancy braid and thread up 24 rocaille beads, one drop and 6 rocaille. Re-insert needle into 18th bead from the top, and pass back up the beads to the beginning. Move along braid.

☐ The second length consists of 20 rocaille, one drop and 6 rocaille. Re-insert your needle at the 14th bead. The third length has 14 rocaille, one drop and 6 rocaille and the needle is re-inserted at the eighth bead.

☐ The pattern continues by repeating (b), then (a), then (b) and (c) again.

Chevron fringe. Working from a velvet ribbon base, thread 6 white, 6 red, 6 black beads. Pass needle back through beads; work 6 more lengths.

☐ To make chevron add a black bead at the top of the next length and increase this in each of the following 5 rows by adding one more than the row before. The final length should have 6 black beads at the top.

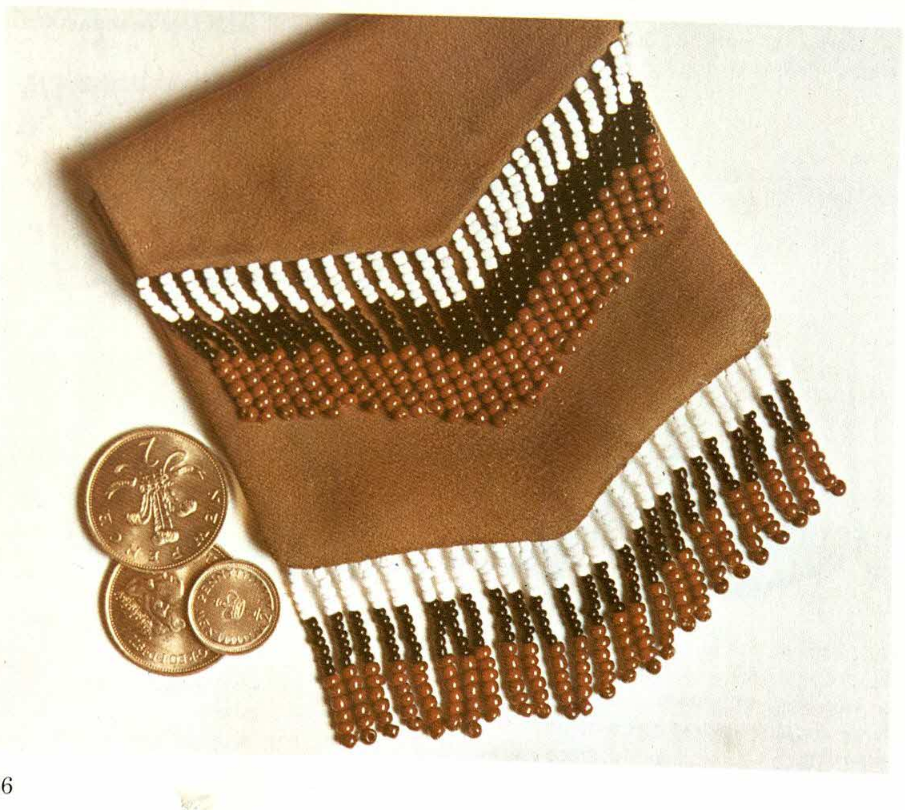
☐ In the next 5 rows decrease by one the number of black beads at the top of each length so that the sixth row has none. Continue from beginning.

Daisy fringe. Thread a random number of blue, then 8 white beads.

☐ Pass needle back through first white bead, thread one yellow and pass needle through fifth white bead. To form daisy, pull thread tight.

☐ Thread some more blue beads—then white and yellow as directed above. Pass needle through fifth, sixth, seventh and eighth white beads and tighten.

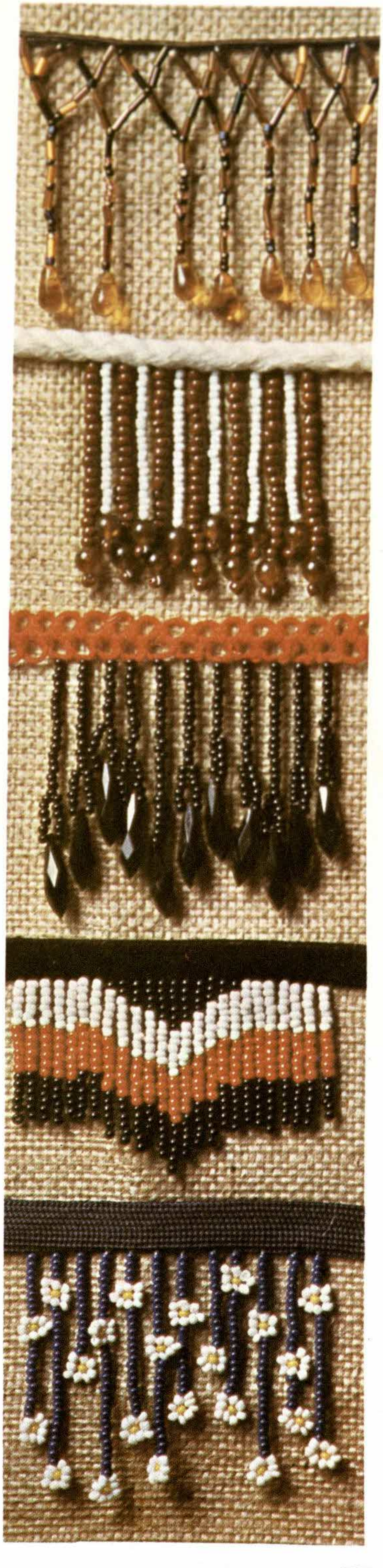
☐ Re-insert needle into blue beads and work back up through first daisy to beginning of length. Continue to work random length strands in this way.

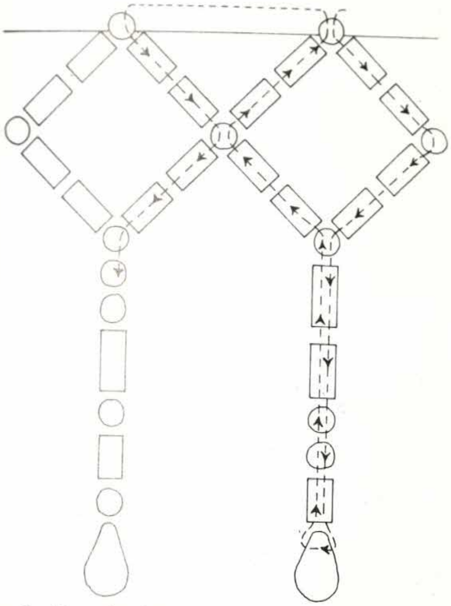


This simple fringe is made with even lengths of beads. The leather shape creates the chevron.

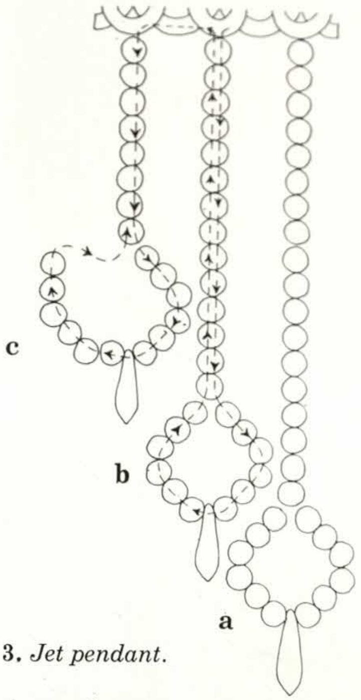
Melvin Grey

Beautiful beaded fringes—from sophisticated jet to simple daisies.

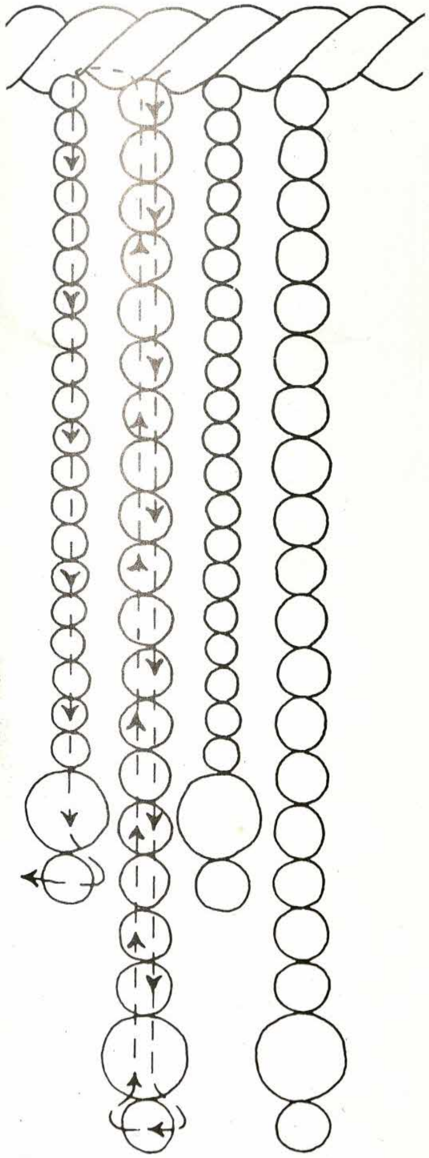




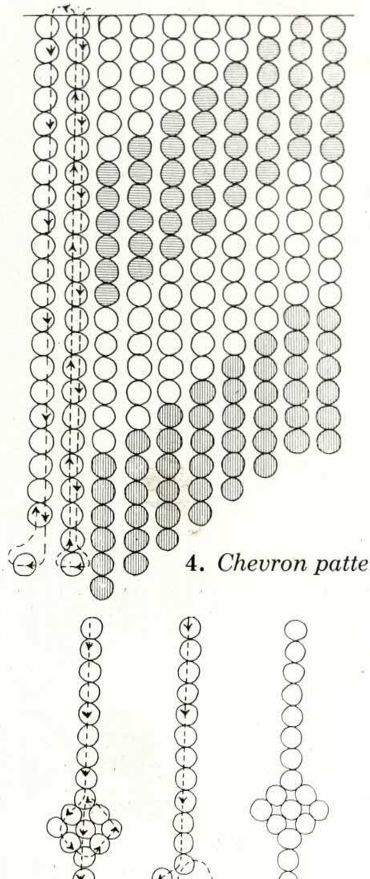
1. *Lattice design.*



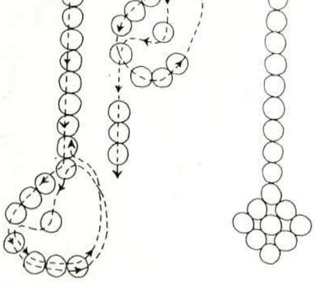
3. *Jet pendant.*



2. *Striped fringing.*



4. *Chevron pattern.*



5. *Daisy chains.*

Jacqueline Short

Steve Bicknell

Bead curtain

Before making a bead curtain think about what kind of beads will best decorate the area your curtain will fill. Decide also on the best type of thread or string to use—it must be strong enough to support the weight of the beads. If you have knotted gaps, then colour is important. Macramé cotton twine may be useful as it comes in several colours.

☐ Prepare a sheet or sheets of paper large enough to fill the whole area where the bead curtain will hang, i.e. door or window size. If possible, fasten this sheet of paper to a firm vertical surface and sketch in your design in pencil. Begin with something simple. If it has a pattern with beads of a different colour or size (as in fig.6), colour in each area separately.

☐ Place a rod along the top edge of the paper design and fasten it in place by looping string around each end. The ends of the string can be secured by tacking them to the surface against which you are working.

☐ Measure a length of your chosen thread three or four times as long as your design, make a note of the length, and then fasten one end of the thread firmly to the rod. If your design is to have a knot between each bead, decide how much space you want between each knot. Knotted strands have the advantage of not requiring as many beads and, if a strand breaks, you don't lose all the beads on it.

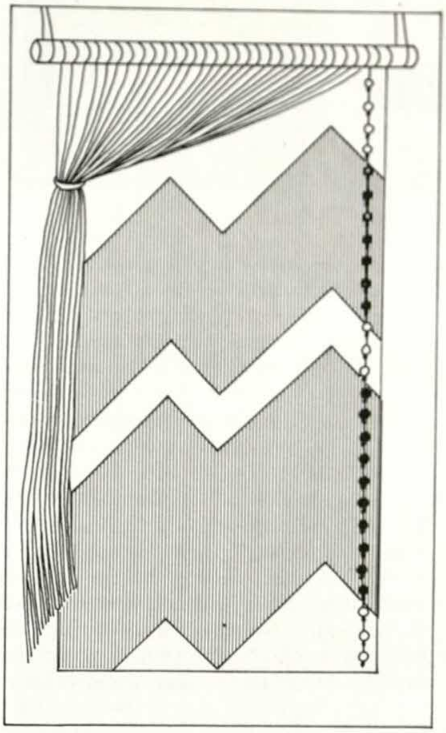
☐ You are now ready to begin threading the beads. Because the paper design is positioned underneath, it is easy to change colour or bead size when threading the beads each time the design changes. If you are not using knots, you can hold the beads in place from time to time by attaching a clip or clothes peg just below the threaded area.

☐ Work a single strand of thread down the whole length of your design. When it is finished, measure how much thread is left over and subtract from the original figure. This will give you the exact length needed for the other strands in the curtain.

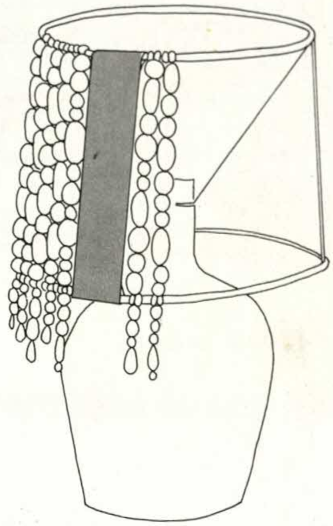
☐ Likewise, by counting the number of beads in the first strand, you can calculate how many beads you require for the whole curtain.

Decide how closely you are going to position each length. Will there be a 12mm (½″) gap or wider? The size of your beads will be a factor to take into consideration—the larger they are, the bigger the gap. When you have worked out the number of lengths, fasten them to the rod. You will find it easier to work with one thread hanging down at a time. The others can be held out of the way by tying them together with a piece of string (fig.6).

Left: a simple glass shade is transformed with elegant bead fringing.



6. *Detail of how to thread beaded curtain.*

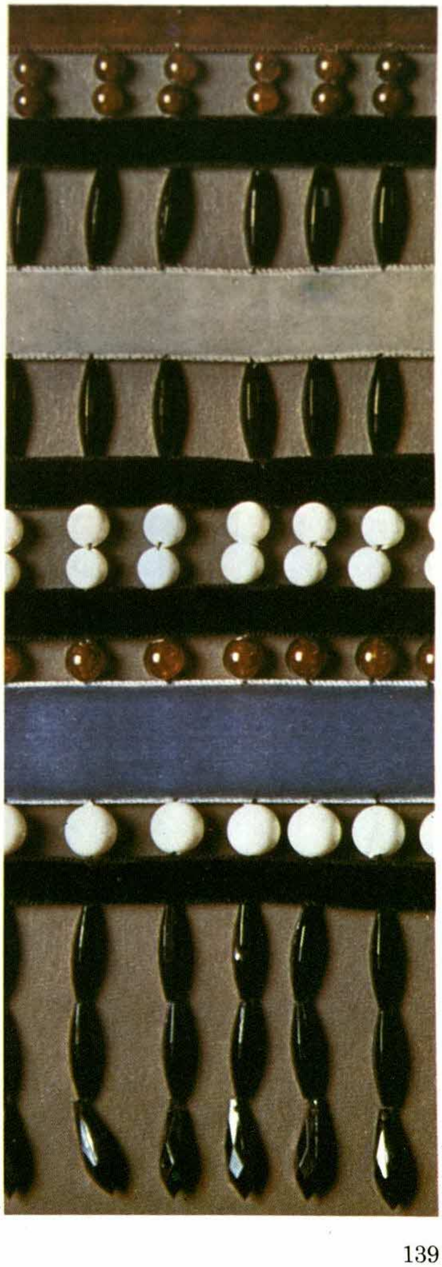


Here is an idea for working alternate sections of bead fringing and ribbon on a lampshade frame.

Fashion beading

Here are some fashion ideas for using bead fringes. From top left—the bodice has lengths of bead weaving extended out at the waist seam to form long beaded fringes. The middle bodice is worked entirely in bead fringes similar to those illustrated in fig.2. The third design shows a beaded bolero and fringe alternating with bands of velvet ribbon to form the 'fabric' shown below.

Francine Block



Melvin Grey

Motifs from ancient Mexico

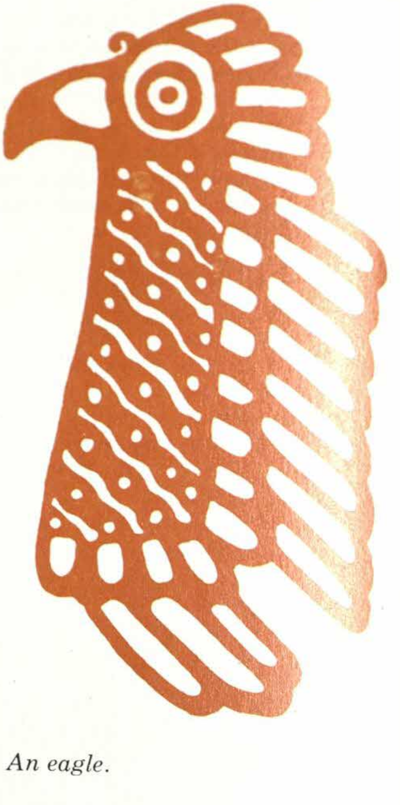
Design know-how 5

Here are some exciting and unusual design motifs that you can use for embroidery, printing or creating any kind of pattern. All these designs are from ancient Mexico, where the Indians developed unique styles of abstract and semi-formal design.

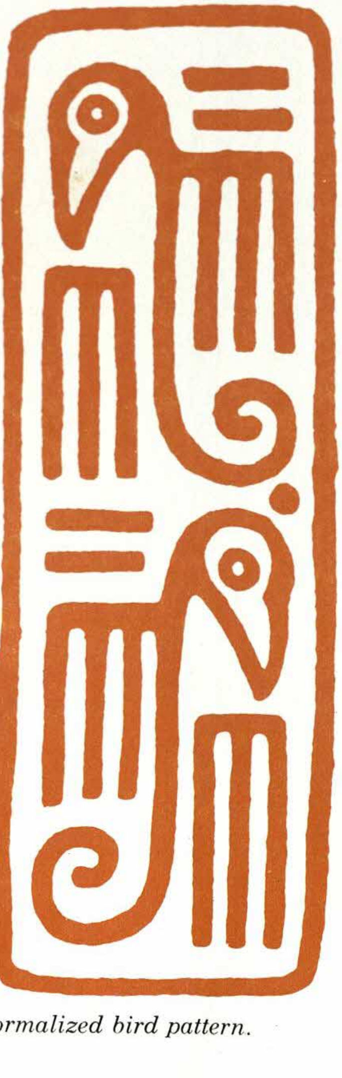
These designs were used for stamps or seals, which were usually made out of clay. These stamps were either flat or cylindrical—fig.4 has been printed from a cylindrical stamp. The cylindrical ones either had holes down the centre, like cotton reels, or arms at the end, like rolling pins, so that they could be used in a smooth, rolling motion.

These stamps were used for decoration, either on pottery, where they could be impressed to make a relief pattern, or by printing on to cloth, paper or skin. The Indians were highly skilled at making coloured inks from vegetable dyes and created brilliantly coloured patterns. Cylindrical stamps usually had strong lines at the top and bottom, which made it easier to line up repeated patterns when they had to be broken for re-inking.

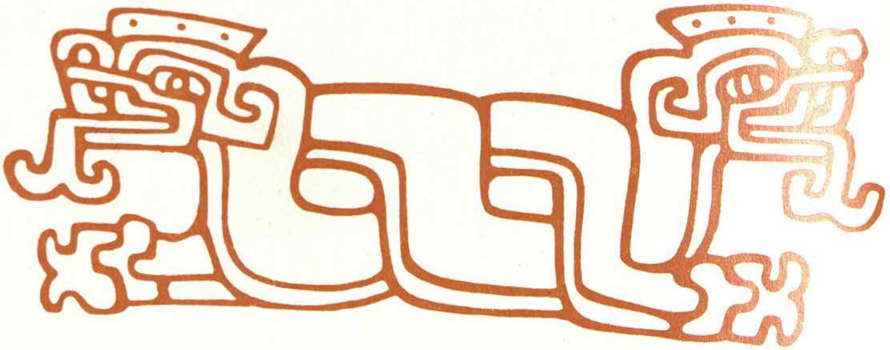
You can enlarge these designs for a striking motif on any fabric—or repeat them for a border. Or you can make your own variations, using the bold lines and formalized style of the ancient Mexicans as your inspiration.



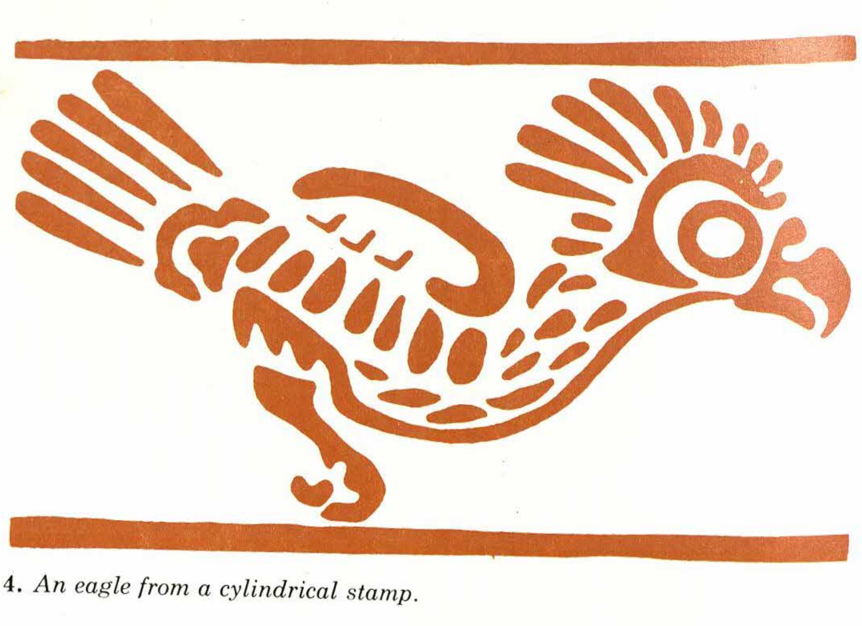
3. *An eagle.*



1. *Formalized bird pattern.*

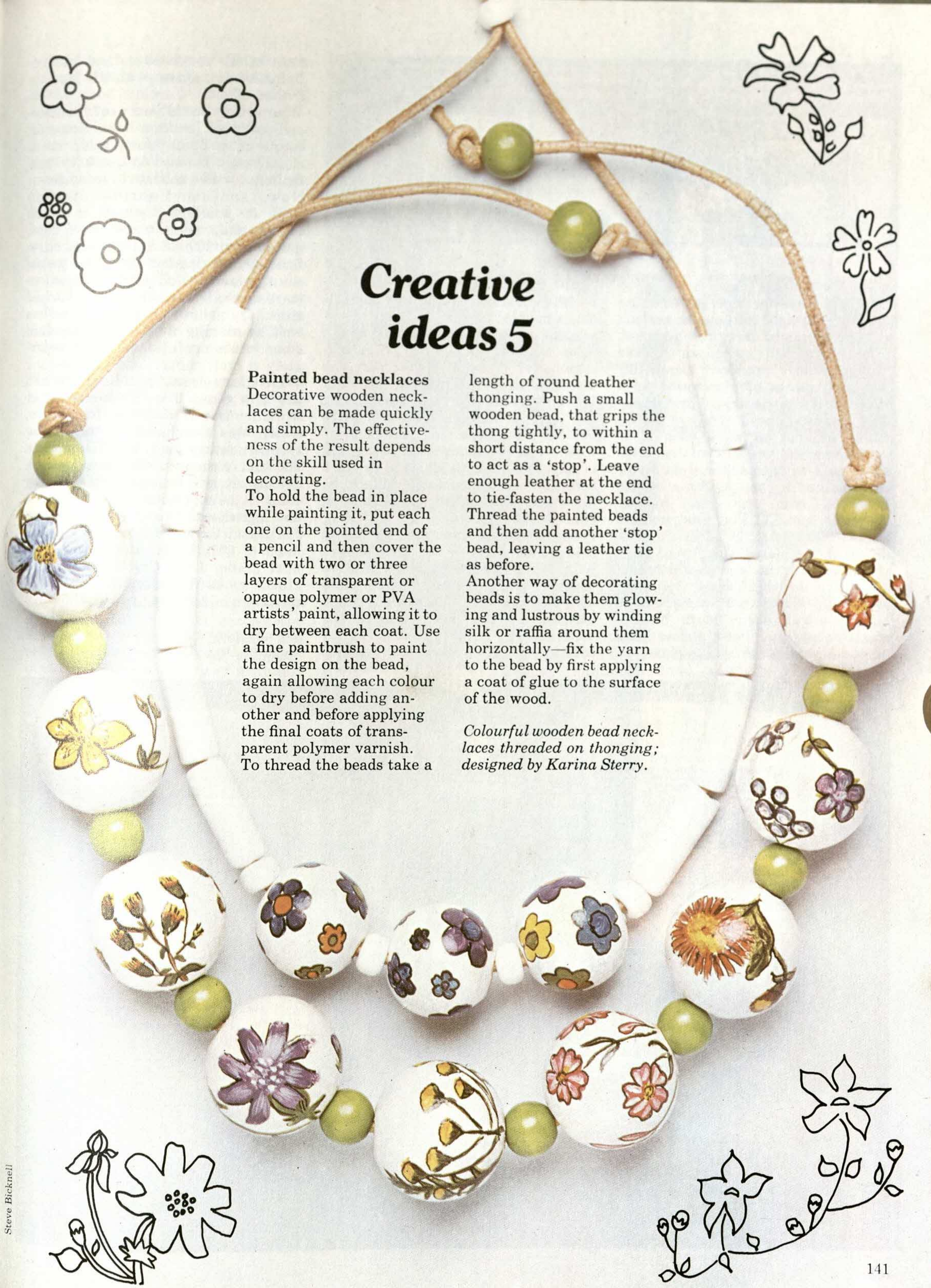


2. *A pair of serpents.*



4. *An eagle from a cylindrical stamp.*

Motifs from Design Motifs of Ancient Mexico.
published by Dover Publications Inc., New York



Creative ideas 5

Painted bead necklaces
Decorative wooden necklaces can be made quickly and simply. The effectiveness of the result depends on the skill used in decorating.

To hold the bead in place while painting it, put each one on the pointed end of a pencil and then cover the bead with two or three layers of transparent or opaque polymer or PVA artists' paint, allowing it to dry between each coat. Use a fine paintbrush to paint the design on the bead, again allowing each colour to dry before adding another and before applying the final coats of transparent polymer varnish.

To thread the beads take a length of round leather thonging. Push a small wooden bead, that grips the thong tightly, to within a short distance from the end to act as a 'stop'. Leave enough leather at the end to tie-fasten the necklace. Thread the painted beads and then add another 'stop' bead, leaving a leather tie as before.

Another way of decorating beads is to make them glowing and lustrous by winding silk or raffia around them horizontally—fix the yarn to the bead by first applying a coat of glue to the surface of the wood.

Colourful wooden bead necklaces threaded on thonging; designed by Karina Sterry.

Steve Bicknell

Glass etching made simple

Glass 1

Glass is a familiar material which we use every day—for storage, drinking out of, to let light into our homes and to look through; it can be stained, coloured, etched or engraved and craftsmen have produced exquisitely decorated pieces of glassware. As a material, it has the unique property of rigid transparency. Yet very few people attempt to work with it to produce decorative effects of their own. Reluctance to try handling glass may be explained by the mystique it has developed over the years—master craftsmen spend so long studying and learning how to make glass, to blow shapes and to master the arts of firing and annealing (the process of toughening glass). But there is no need to be overawed—with modern materials to help, you can easily learn how to create decorative effects and to build up designs and structures in glass.

Acid etching

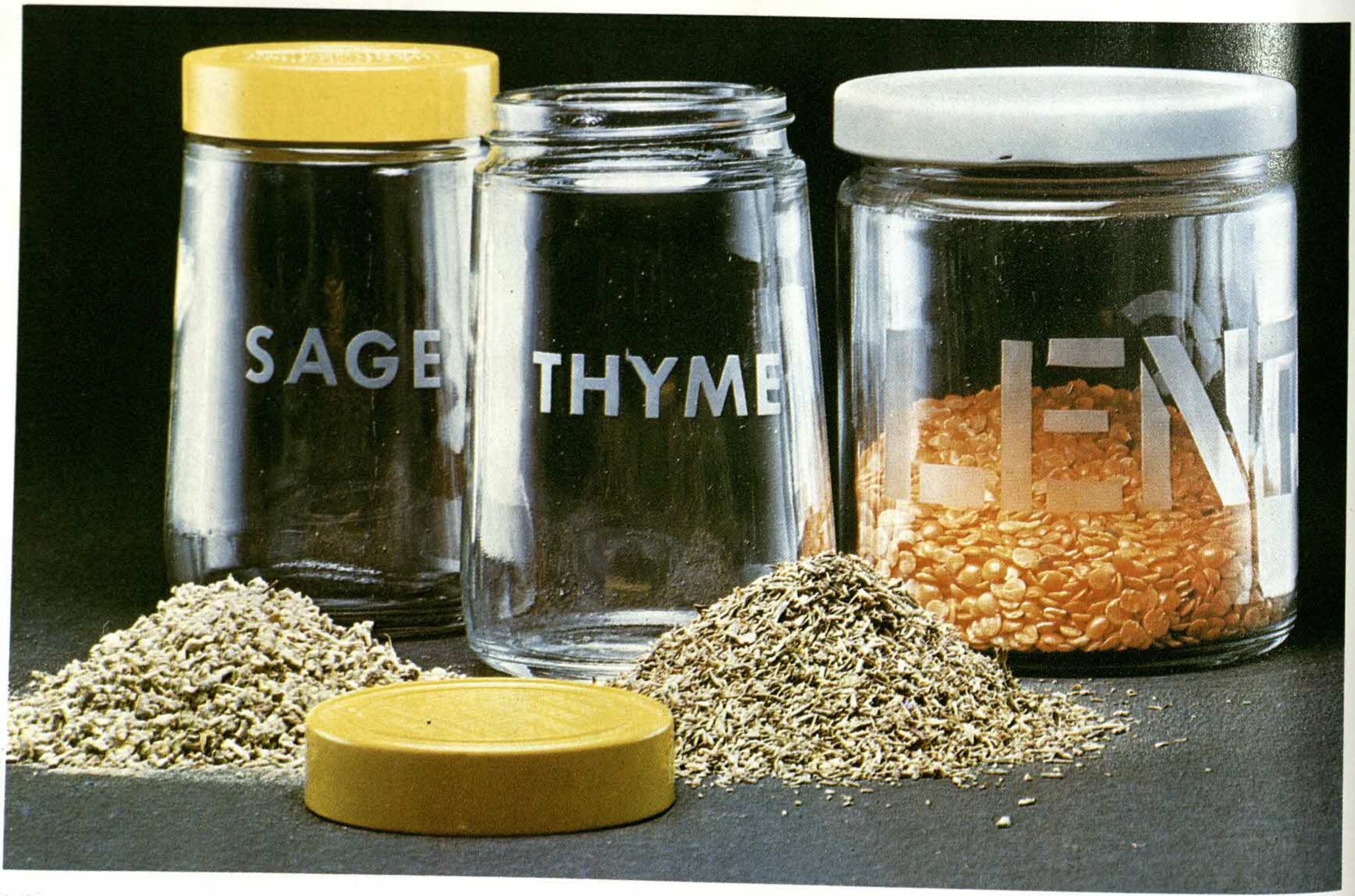
Etching on glass, by allowing controlled amounts of acid to eat away selected parts of the top layer of the glass to make a design, is an old-established craft. It dates from the discovery in 1771 of hydrofluoric acid. This acid is used in various solutions, the purest of which will dissolve glass but leave the remaining surface clear when the acid is poured off. If the acid is combined with an alkali to produce sodium or ammonium bifluoride, known as 'white acid', the remaining effect will be frosted.

Perhaps the most common example of acid-etched glass is the frosted light bulb. When these are made, a solution of white acid is poured into the bulb and then drained off, leaving a rough internal surface which blocks out much of the light. Then a milder solution is applied which removes most of the rough edges and lets the light through again, with the familiar frosted effect.

What acid should you use? Commercial etching is done with powerful solutions of hydrofluoric acid, which should only be used in carefully controlled, well-ventilated conditions. Now, sodium fluoride etching fluid is available, which is much milder and, given reasonable care, quite safe. This fluid produces a frosted effect. It can be bought as part of a kit, which includes all you need to start decorative etching—gum-backed stencils, applicators and tweezers as well as etching fluid. The individual components are also available separately at craft shops.

What glass should you use? You can use any glass. The finest decorative work is usually done on lead glass, which was developed in the seventeenth century and was the chosen material of the great Dutch engravers, because it is relatively soft and very clear. It is expensive, because lead is an ingredient—the highest quality, Full Lead Crystal Glass, has a minimum of 30% lead content while the next grade, Lead Crystal, which includes most Waterford Glass, has a minimum of 24% lead content.

By using stencils you can etch labels on jars. Designed by Jennifer Grant.



Steve Bicknell

Most glass in the home is likely to be a variety of soda-lime-silica glass which, as the name implies, is largely made of these three constituents—silica sand, soda ash and limestone. This glass has a tendency to be greenish, like old bottles, and small quantities of other chemicals are usually added to reduce this.

There is no need to insist on using lead glass for your decorations—you will be much better advised to use objects you can find around the home or buy cheaply. You can create delightful effects on old jam jars or coffee containers, easily bought spice jars or cheap wine glasses. All of these will probably be made of soda-lime-silica glass.

Within this broad category, there are hundreds of different types of glass, with slightly different constituents and properties. Etching fluid will react slightly differently on each of them, so you will have to experiment, particularly with the length of time you allow it to work. It is advisable, also, to make your first attempts at decoration on a waste piece of glass, until you are confident in your own ability.

Jerry Tubby

To make a pretty, frosted window, cut a design from contact plastic, stick it to the glass and start etching.

Controlling the acid

To achieve a good pattern it is absolutely essential that you control the application of the acid carefully and accurately. You do this by 'stopping-out'. There are a variety of materials you can use for this which will prevent the acid from reaching the areas you want to remain unaffected.

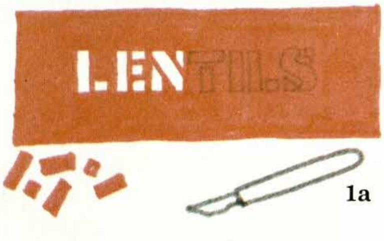
In traditional acid etching, the whole object on which a design is to be etched is immersed in a bath of acid, so very thorough stopping out is needed. This is usually done by covering the surface with Brunswick Black, which is a thick, acid-resistant varnish; at the edges of the design, thin lead foil is often glued on with a beeswax-tallow mixture to give a sharp edge.

For our purposes, such elaborate protection will not be necessary. A glass-etching kit will supply gum-backed stencils or you could use glue and paper, but the best material is a contact plastic such as Fablon. The essential points are that the material should be resistant to the acid and that there should be no bubbles or unglued parts along the edge under which the acid can seep, to spoil the line. When you have stuck the material down, rub over it with the back of a spoon or, better still, with a small roller to smooth down the edge.

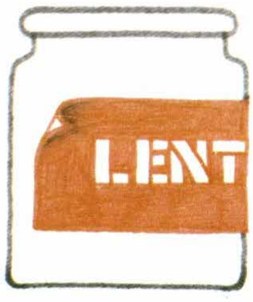
Making a pattern. If you are using ready-made, gum-backed stencils, then this will be no problem. Simply cut the appropriate section from a stencil sheet, peel off the backing and stick it on. If you are using several pieces—as for lettering—then be careful to align them properly.

If you are not using ready-made stencils, you will have to cut the design out of the stop-out material. It is easiest to work if you can fit the design on to one piece of stop-out material, so that it can be cut and handled as one piece. This is possible if you are working on flat glass or straight-sided tumblers or jars. In this case you can draw the design on to the material and cut it out before attaching it to the glass (fig.1). You can use ordinary stencils, or trace a design you like, or draw your own—until you cut the design out, you can keep altering and improving it.

A word of warning: with some patterns and letters, you will have to stop-out the inside as well as the outside of the shape, although they do not connect. For example, to etch the letter 'O', it is important that the centre piece of stop-out material be positioned exactly in the middle of the shape. In such cases, it is best to stick a solid piece of material on the glass,

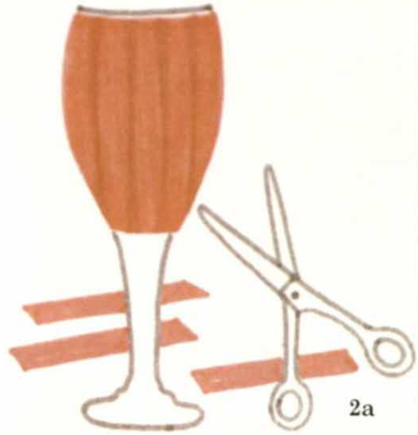


1a. *When working on a straight-sided glass or jar, cut the design out of the stop-out material before sticking it on the glass.*



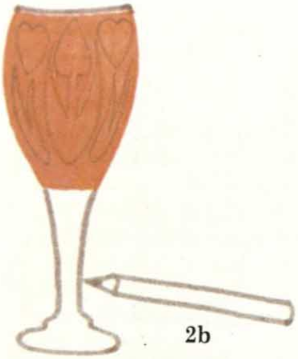
1b. *When the stop-out material is stuck on to the glass, the area to be etched is left uncovered.*

Victoria Drew



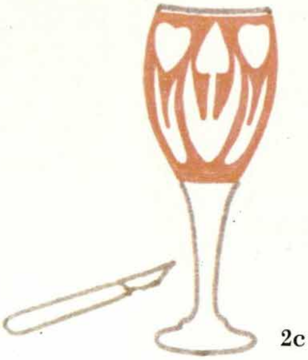
2a

2a. *To cover a curved surface with stop-out material, cut the material into strips and lay them down so that all the glass is covered; the strips overlap at the narrower top and bottom.*



2b

2b. *Draw the design on to the material after you stick it down.*



2c

2c. *Cut the design out and peel off the areas you want to etch.*

Victoria Drew

with the letter drawn on it. Cut out and lift off the area you want to etch, using either a scalpel or a sharp knife and tweezers.

If you are working with glass that is curved in two directions—like a wine glass, as opposed to a straight-sided tumbler—you will not be able to lay a flat sheet on it without it creasing, unless you are going to etch only a very small area. To overcome this problem cut the material into strips before drawing the design. After preparing the glass (see Etching method, below), stick the strips on to the glass to cover the area to be etched (fig.2). Draw the design in pencil. When you are satisfied with it, cut the material carefully with a scalpel or sharp knife and lift off the parts covering the areas you want to etch.

Etching method

You will need:

Glass
Etching fluid
Stop-out material
Brush, or cotton buds on sticks
Tweezers
Spoon or small roller
Detergent, soft cloth
Running water

☐ Clean the glass on which you will be etching by washing it with detergent to remove all the grease from the surface. This is essential as the fluid will not act properly on a greasy surface. Be careful not to get finger-marks on the clean glass. Handle it only by areas that will not be etched. Dry the glass with a clean, soft cloth and make sure it is thoroughly dry before putting on the stop-out material.

☐ Prepare your stop-out stencil. Using tweezers to avoid finger-marks, put the stencil in position on the glass. If you are working on curved glass, now is the time to cut the stencil. If you are using more than one piece of stop-out material, then be careful to line them up accurately. Smooth the material down with a spoon or small roller to make sure that the edges are solid. This is particularly important if you have overlapping pieces, for the join may be a vulnerable point.

☐ It is advisable to leave the stop-out stencils for an hour or two after they are stuck down, to set firmer. It is much more important to get a good edge than to be able to peel the material off easily. Most adhesives, even contact adhesives, set harder if left for a while and so will resist the acid better.

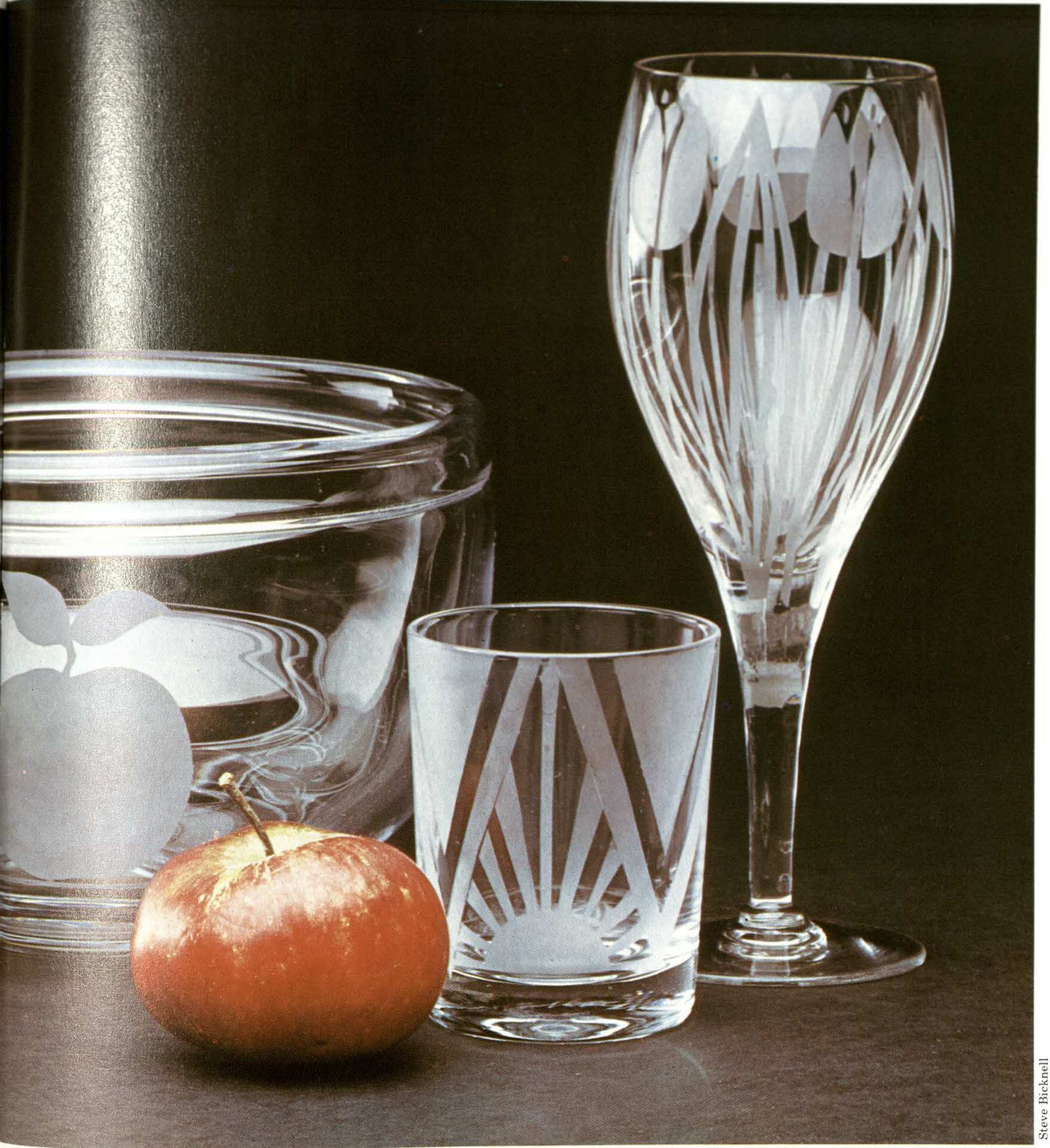
☐ Make sure the surface to be etched is horizontal, as the etching fluid will run down a slope.

If you are working on a curved surface, such as a jar or drinking glass, you will have to etch it a bit at a time. Keep the part you are etching horizontal by holding it in place with bookends, paperweights or anything to stop it rolling.

☐ Take the container of etching fluid and check the manufacturer's instructions. They will probably tell you to shake it vigorously to dispel any sediment that may have gathered, which would leave a diluted and ineffective solution at the top. Use a small brush or a bud of cotton wool on the end of a toothpick to paint the fluid on to the glass. Put it on as thick as you can without spilling it.

Leave the fluid on the glass for 5 to 10 minutes. The exact length of time needed for the fluid to work will depend on the glass: experience is the only real guide.

☐ Wash off the fluid with warm running water. Do this quickly and carefully to avoid dislodging the stop-out material. Dab the glass dry with a



Steve Bicknell

clean cloth and take a good look at it. If there are any patchy areas where the fluid has not worked properly, make sure the glass is completely dry and re-apply the fluid.

If you are working on a curved surface and the section you have been working on is completed, turn the glass, prop it up again and apply the fluid to the next area.

☐ When all the unmasked areas in your design have been frosted, peel off the stencils. If they are stuck very hard, try soaking them in warm water. In really intractable cases, try using lighter fluid to loosen the glue.

Safety hints

Be sure only to buy etching fluid which has sodium fluoride as its active ingredient. Other etching fluids containing hydrochloric acid or ammonium fluoride are very dangerous and can burn or poison you. Sodium fluoride, however, only attacks glass and can be used quite safely in the home provided the manufacturer's instructions are carefully followed. You should still keep the fluid away from children and avoid accidental swallowing or contact with the mouth.

Anything made of glass can be decorated by etching—give a new sparkle to wine glasses or add a motif to a simple glass bowl.

First steps in modelling

Modelling simple shapes is an excellent way to become familiar with the plastic qualities of clay—how it can be rolled, pinched and pressed into all kinds of forms.

The first steps in modelling introduce very different techniques from the slicing and squaring processes used for making blocks and slabs—experiment by manipulating the clay with your fingertips to see what shapes emerge and what the shapes suggest to you.

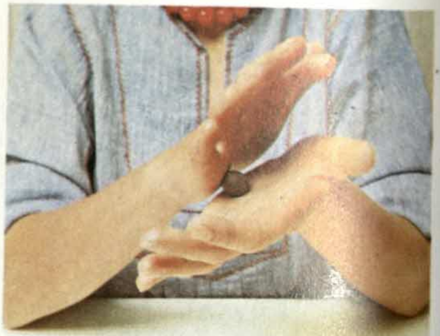
It is a good idea to work with pieces of clay about the size of a large marble. Roll the lump between the palms of the hands to give a smooth ball (fig.1). A finger pressed into the clay lump gives a basic cup shape (fig.2) which can then be shaped with the fingertips (fig.3). The range of possibilities is very wide, so do experiment.

The posy of flowers and the exotic Mexican-style hanging shown here are both simple first projects which develop the idea of experimenting with form. As many shapes as possible were constructed with the finished shapes in mind: some of the flower shapes are naturalistic, others are completely stylized. The hanging employs a wide variety of 3-dimensional forms—spheres, cubes, cylinders and triangles, and all the flattened and elongated developments of these shapes.

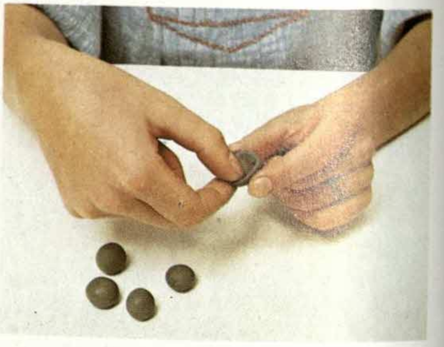
Once you have become familiar with the feel of the clay, then progress to more elaborate models like the little houses shown here—they are made from a basic shape with modelled detailing applied to them.

Steve Bicknell

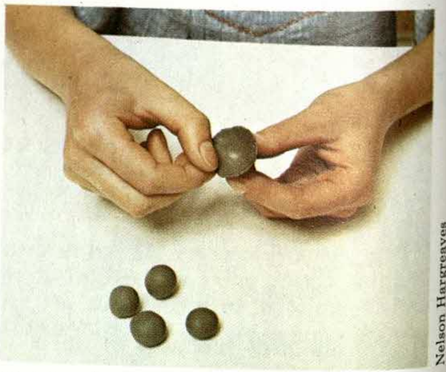
Realistic modelled roses make very effective brooches.



1. *Roll pieces of clay, about the size of large marbles, to give smooth balls.*

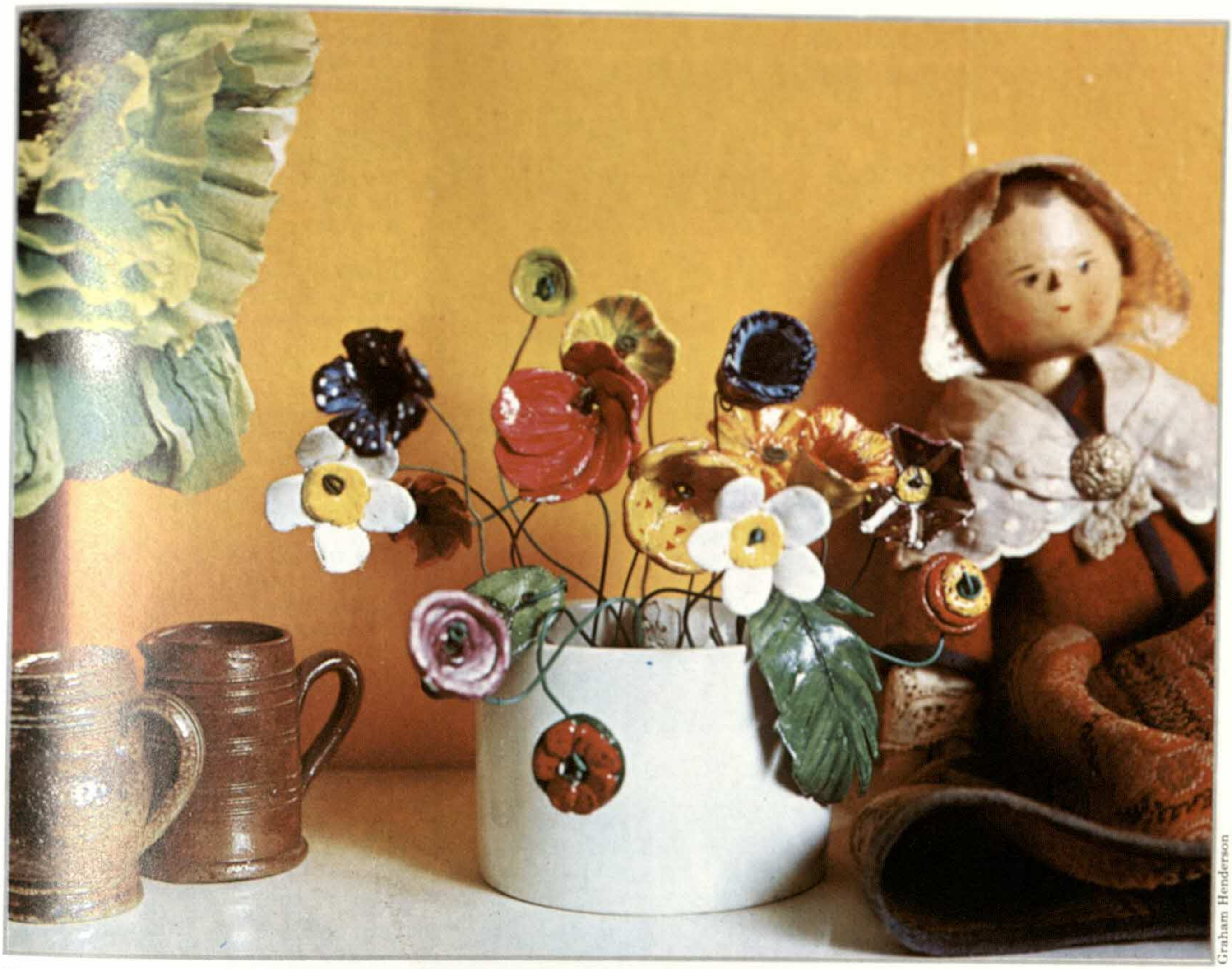


2. *Press a finger or thumb into the clay to give a basic cup shape.*



Nelson Hargreaves

3. *Use the fingertips to model the basic cup shape into a variety of forms.*



Graham Henderson

Simple modelled shapes, mounted on stem wire, made into a posy.

To make the posy

You will need:

½kg (1lb) clay

Poster paints, varnish and brushes for decorating

Green-coated wire for stems

Pliers for cutting and bending wire

Small vase and plasticine to complete display

☐ Begin by shaping the flowers from lumps of clay about the size of a large marble. Petals can be flattened out between the fingers, moistened and attached to the knob-shaped flower centre. Bell shapes look particularly effective with the edges turned over and outwards.

☐ As an alternative to shaping the flower with the fingers, press the clay out flat, then slice it with a small, sharp knife to give a serrated leaf effect. Petals can be sliced to shape and curled inwards or outwards, or trimmed with the point of a scalpel to give a delicate, frilled edge.

☐ When the flower is completed, use the point of a pencil to bore a hole through the centre, to take the wire stem which is inserted later. Leave the flowers to dry out thoroughly before painting them.

☐ Painted decoration can be either naturalistic or the exact opposite—choose subtle, delicate flower tones or bright, primary colours. When the paint is completely dry, paint the flowers with clear varnish to prevent them chipping.

☐ Select a suitable small vase for the arrangement and place a knob of plasticine in the bottom. Hook over one end of a suitable length of wire and pass the other end down through the centre of the flower. Pull the wire through so that the hooked end is taut against the flower centre, then make a kink in the wire, hard against the neck of the flower to hold it in place. Arrange the flowers in the vase.

Instead of grouping the flowers together to form a posy, try making a pair of daisies as ear-rings—jeweller's findings are easily fixed to the back with an impact adhesive. Brooches are excellent projects—a large, stylized flower can be pinned to a hat brim, a cluster of small flowers can be worn on a lapel or waistband. A realistic red rose, for example, is an unusual brooch, and is very simple to make.

To make the rose brooch

You will need:

Lump of clay about the size of a ping-pong ball

Poster paints and brush

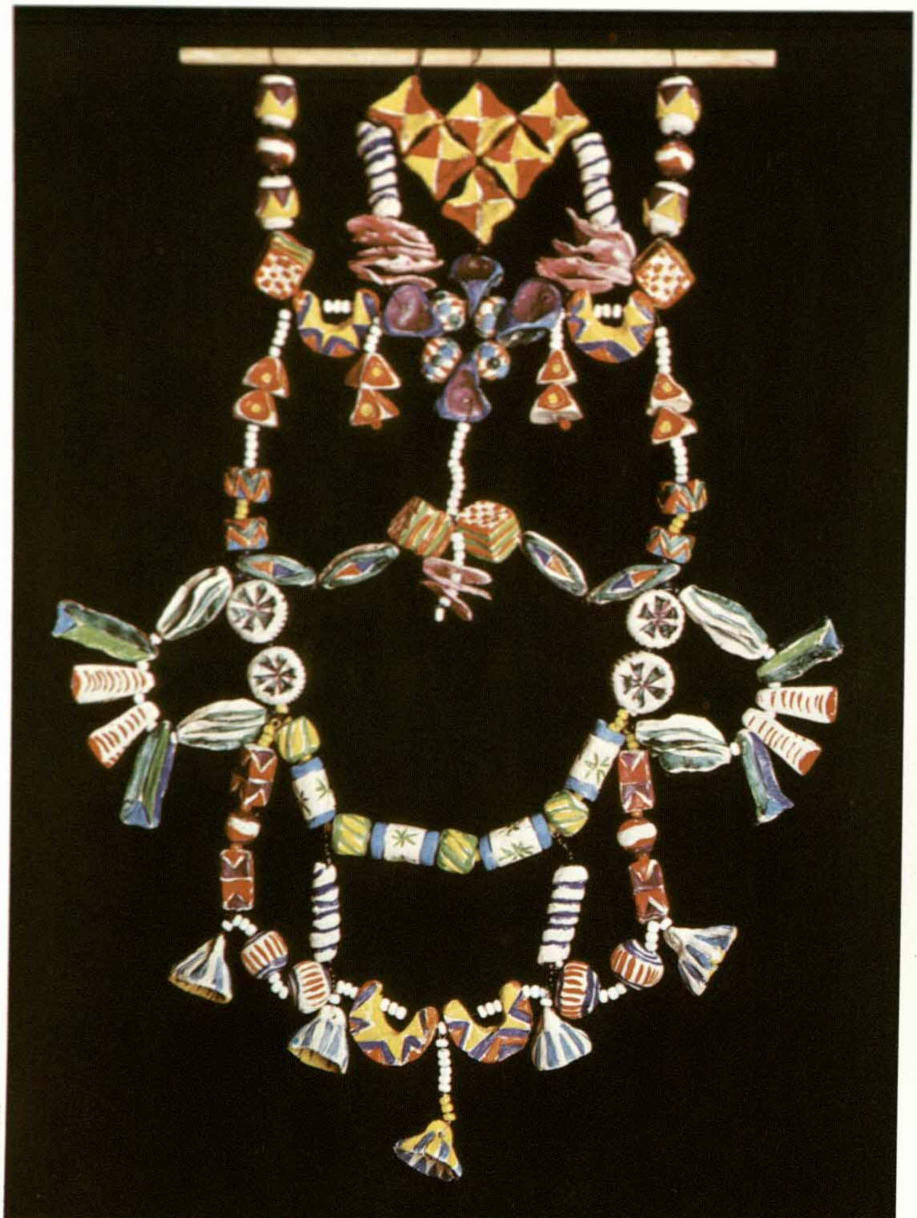
2.5cm (1″) brooch finding

☐ Use your fingers to press out a strip of clay about 15cm (6″) long and 2cm (¾″) wide. The edges should be slightly uneven, as this adds to the natural effect.

☐ Begin rolling up the strip tightly at first to represent the centre of the flower, then more loosely to represent the outer petals. Continue rolling until the flower is complete, then pinch off the remainder of the strip.

☐ Moisten the inner edge of the strip and press it firmly against the flower to secure it. Turn the rose over and, with a moistened fingertip, flatten the back to make a smooth surface.

☐ Leave the rose to dry, then paint it. When the paint is dry, use an impact adhesive to secure the finding in place on the back.



Mexican-style wall hanging combines an enormous variety of modelled shapes. Designed by Kristi Chase.

Steve Bicknell

Mexican-style hanging

To make a hanging similar to the one shown here:

You will need:

1kg (2lb) clay
Selection of small bought beads in black, white, red, yellow and orange
2m (6′) fine wire
20cm (8″) length dowelling
Poster paints for decorating

☐ It is a good idea to make a sketch of the projected hanging before starting work on the beads. When the sketch is complete, calculate how many beads will be required. If it is to be a symmetrical arrangement, remember that you will need even numbers of each type of bead.

The variety of shapes used is enormous—this hanging uses squares, rectangles, triangles, circles, cylinders, arcs, lozenges, flattened-out petals and a twisted, ridged cylinder-shape—this has the sides pinched out to give ridges and to make fins, and is twisted slightly like a pastry strip.

Some of the beads are incised, using a sharp, pointed knife or thumbnail.

☐ When the clay bead is complete, pierce holes for threading using a needle or a length of spaghetti. Remember that some beads will need to be pierced with one hole from end to end, and others will need two holes at either end, depending on their position in your sketched layout.

☐ Leave the beads to dry out slowly.

☐ When they are dry, paint them in the brightest possible poster colours, accentuating the incised patterns with areas of contrasted colour.

☐ Position the completed beads according to the layout, interspersing them with bought beads, if desired.

☐ Take a convenient length of wire, say about 60cm (2′) and, starting at the bottom of the hanging, begin threading. Work up gradually towards the top, joining the wire where necessary by twisting the two ends round each other for 2.5cm (1″). When the threading is finished, twist the ends of the wire securely round the length of dowelling and the hanging is complete.

More complex models

The varieties of shapes that can be made in clay are almost unlimited. Animals and birds, lifelike and abstract sculptures, scenery for toy soldiers and model train layouts are some of the possibilities.

Model houses provide a good starting point. They can all be made from a single basic shape, but they provide ample scope for decorative ingenuity.

To make two toy houses

You will need:

250gm (½lb) clay
Poster paints, brushes for decorating
Varnish, if required
Tools for impressing, if required

☐ Begin by making a rectangular block of clay 5cm x 2cm x 3cm (2″x¾″x1¼″) for each house. Square it off by tapping all the sides in turn against a flat surface. Taking the base of the house to be one 5cm x 2cm (2″x¾″) side, carefully scoop some of the clay out of the block using a small spoon or a wooden spatula. This will prevent the house from warping and splitting as it dries (fig.4).

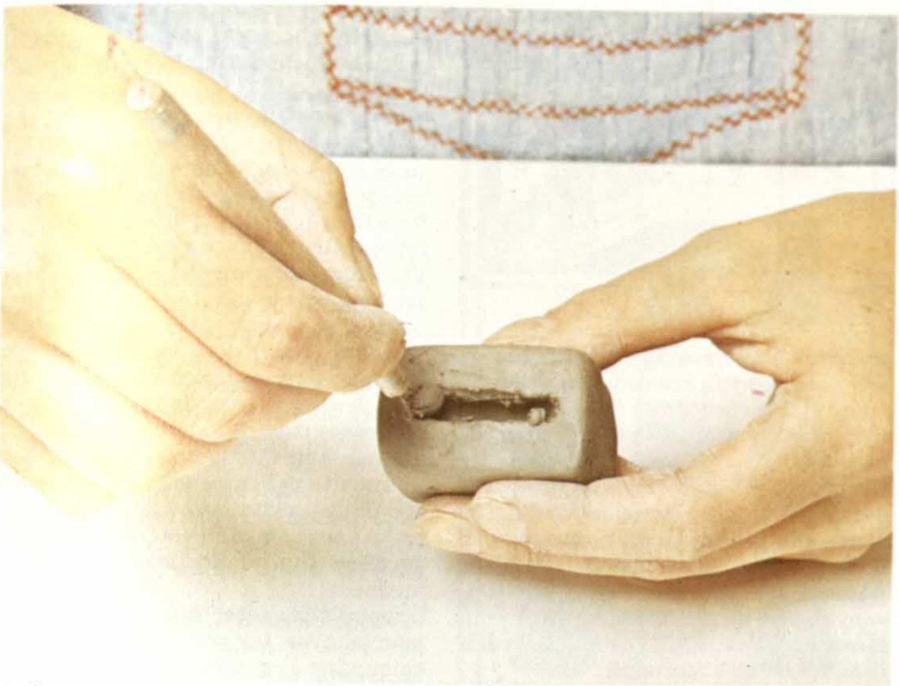
☐ To make a basic roof, roll out a piece of clay to give a slab about 3mm (⅛″) thick. Trim it into a rectangle of the required size and pitch over the house block (fig.5). From the same slab, cut small triangles that will fit in the gable ends, and seal them to the roof and the block by thoroughly moistening all the edges and pressing them together.

☐ Once the basic shape is complete, any number of variations can be added—a tiled roof can be represented by small balls of clay pressed to the roof (fig.6); slates and bricks can be incised, and so on.

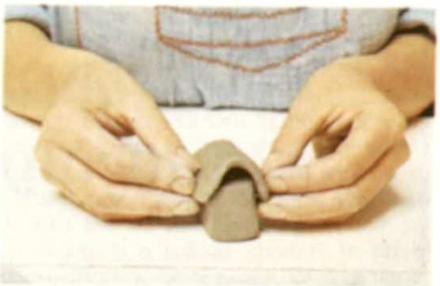
A rustic effect can be achieved, as in the white cottage, by modelling door and window shapes in the fingers. A more formal look, like the grey cottage, can be created by rolling out a very thin slab and using a sharp knife to cut out door and window shapes.

It is very easy to achieve a satisfying result, but don't stop short at a single house. Try a whole village in a regional style, or a city street of a particular period.

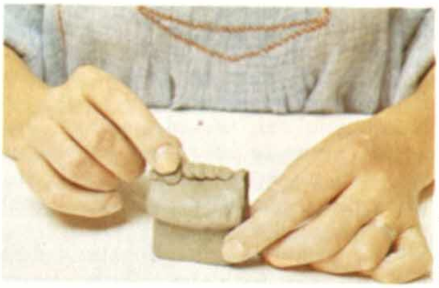
Right: toy houses—made from one basic shape—provide scope for decoration.



4. *Scoop out some clay to prevent the block from warping and splitting.*



5. *Pitch the basic roof shape over the house block.*



6. *Represent a tiled roof by pressing small clay balls on to the basic roof.*

Nelson Hargreaves

Graham Henderson

Introduction to dyeing

Some of the most artful designs produced on cloth are those made with classic dyeing techniques such as batik, tie-dye and bleach dye. These are fascinating processes to work with but before you can undertake them and carry dyeing to its fullest expression you will need a grounding in dyeing principles—what dyes are, and what they will and won't do.

To get to know and understand dyes you can start with the colours around you, transforming an old pink blouse into a vivid burnt orange or changing garish patterned curtains into subdued woodland shades.

What dyes are

Dyes are colours produced either chemically or from plants and combined with a mordant or fixing agent that enables the colour to penetrate the material being dyed.

The most important point to remember about dye is that, unlike paint, it does not build up on the surface but is absorbed into the pores of the material. This means that if another colour is already present, the new dye will blend with it instead of covering it. So, while you can paint a blue wall yellow by adding enough coats, if you dye a blue curtain yellow, it will turn out green from the combination of both colours.

This does not mean, however, that you can never transform yellow curtains to blue—in many cases it is possible to strip out the old colour, leaving a neutral foundation for the new one—but it does mean that you should know what combinations of colours produce other colours. These are illustrated in the colour guide.

Two kinds of dyes can be bought for home dyeing: hot and cold water dyes. A third type of dye, vat dye, is used commercially, especially for cottons and rayons, but because of the chemicals involved it is rarely used at home.

Hot water dyes

Hot water dyes can be used on a variety of fabrics (see the Fabric Chart on right) but since they require simmering, which means reaching a temperature of 82°-93°C (180°-200°F), it is wise to check the washing instructions on any garment you are dyeing. Although many fabrics will take hot water dye, they may themselves be damaged in the process.

Preparing to dye. Hot water dye is available in both powder and liquid form. The powder must be mixed with boiling water before using, while the liquid is ready mixed and is more convenient for larger items, since it contains more dye. Both require the addition of salt as a mordant.

All brands of dye have instructions on the packet giving step-by-step directions for mixing the dye and completing the dyeing process. They usually state what weight of dry cloth a packet will dye.

Before you begin, therefore, it is necessary to weigh the dry fabric to find out how much dye you will need. To work properly, fabric must be thoroughly wet before immersion in the dye solution. The dyeing process actually involves simmering the cloth in the solution for a maximum of 20 minutes. If, half way through the dyeing time, your fabric appears to have taken the new colour, don't be tempted to remove it as the full time is required for the colour to become fixed. It is possible, however, to lighten or darken the shade by leaving the cloth in for a longer or shorter time, but you should practise with a sample piece of cloth first.

When the colouring has taken, remove the cloth from the container and rinse until the water runs clear, then wring or spin lightly and dry away from the sun or direct heat. (With wool, let the fabric cool before rinsing it.)

Washing machine dyeing. If items are too large to fit into a container on a cooker, you can dye them in a washing machine. Use a half-load capacity so the fabric can move freely inside and the dye can circulate throughout, otherwise it will end up patchy.

Manufacturers' instructions include information about machine dyeing and, should you choose to use this process, make sure to clean the washing machine thoroughly when you have finished.

Special characteristics. Among commercial dyes, hot water dye is the least colour fast and items should be washed separately since the colour tends to bleed into the rest of the wash. Over a period of time hot water dyes gradually lose their strength and garments may require re-dyeing.

Items dyed in hot water dyes can always be stripped so, if you don't like a colour or get tired of it, you can change it.

Cold water dyes

Cold water dyes are generally colour- and light-fast and are ideal for anything that has to be washed regularly. However, they work only on natural fibres (cotton, linen, wool and silk) and on viscose rayon. Being colour fast, they cannot be stripped out.

Preparing to dye. In cold water dye fabric has to be immersed for an hour

Fabric Chart

A risk is taken when immersing any fabric in a higher water temperature than the recommended washing instructions. Simmering, which hot water dyes and stripping require, means immersing in a temperature of 82°-93° C(180°-200°F). No fabric can be stripped that has been vat dyed or cold water dyed. (C=cold, H=hot dyes.)

Wool (not cashmere, mohair, angora) **(C&H), Cotton (C&H)** **Linen (C&H)** **Silk (C&H)**	Cold water is gentler to fabrics since it doesn't require cooking and colours are faster. Special cold water silk dyes are available, but are not colour fast.
Viscose Rayon (Evlan, Sarille) **(C&H)** **Nylon** (Bri-nylon, Celon, Enkalon) **(H)** **Acetates** (Dicel, Lansil) **(H)** **Elastomerics** (Spanzelle, Lycra) **(H)** **Triacetates** (Tricel, Arnel) **(H)**	
Polyesters (Terylene, Trevira, Tergal, Dacron, Crimplene) **(H)** **Polyester / Nylon** (Helanka) **(H)**	Dye to a paler shade of chosen colour.
Polyester mixtures (H) **Glass Fibre** and **fabrics with special finishes** (Permanently pleated, crease-resistant, flame- or dirt-proofed, bonded)	Cannot be stripped or dyed at home as they are non-porous.
Acrylics (Acrilan, Orlon, Courtelle, Dralon, Teklan, Leacril)	Cannot be stripped or dyed domestically.

but it is more convenient to use because once the dye is mixed you can dye in the sink or bath.

Always wear rubber gloves when using this dye as it is very hard to get off, especially from under nails and round cuticles. If you do stain your hands, wash them with diluted bleach and then dip them in vinegar.

If you are dyeing something large in the bath, remember that fabric can double its weight when wet and it may become too heavy to lift out and rinse. Add the dye solution to enough cold water to cover the fabric well. Add the recommended amount of salt (which makes the fabric receptive to the dye) and soda, if required, (to fix the dye), dissolving them in hot water first.

Wool needs different treatment, however. Instead of salt and soda, vinegar is added and warm water is used instead of cold.

When the fabric has been steeped for an hour, rinse it, wash in very hot water and washing powder and rinse again until the water runs clear.

Using a washing machine. Follow the instructions on the packet. The machine must be used in different stages as no machine has a long enough cold wash or rinse cycle. Since machines vary, many dye manufacturers recommend that you write to them for advice on your particular model. Clean the machine immediately after use by running it, empty, with hot water, washing powder and a cupful of bleach.

Special types of dyes

Batik dyes can be used with great success to dye cotton, linen and silk. These particular dyes are very often cheaper than general purpose ones; you can buy them in craft shops and they usually give excellent results. The colours are particularly longlasting and have a special intensity. Most batik dyes must be mixed with two or three chemicals, which are usually sold with them.

Silk. Special cold water dyes, designed for pure silk only, are available and these give unusually beautiful hues. They are not, however, as colour fast as other cold water dyes.

Stripping colour

Before you dye will you need to strip down to neutral?

Yes, if the colour you are using is lighter than the colour of the cloth.

Yes, if the new colour is one which, when mixed with the old one, will produce an unwanted third colour.

No, if the new colour will blend with the old one to produce the shade you want: e.g. you can dye a yellow dress with pink dye if you want to get coral.

Colours that cannot be stripped are vat dyes and cold water dyes.

For stripping there are special products (such as Dygon Colour and Stain Remover and Drummer Colour Remover. Dygon, as the name suggests, removes stains in the same operation).

To discover if a fabric will strip test a small piece first. Complete the test as directed on the container, because occasionally a colour appears to strip when the fabric is wet but colour returns when it dries.

Small items must be simmered for about 10 minutes in stripping solution, cooled, given a lukewarm rinse and then washed thoroughly.

A washing machine can be used to strip larger items and instructions are given on the bottle.

Wool must be handled very carefully and allowed to cool before rinsing in lukewarm water. Then wash in warm water and rinse again. Never strip wool in a washing machine.

Acetate rayon. Do not allow the temperature of the water to rise above 60°C (140°F).

Special problems

Stains and dirt will not be hidden with dye and will show through, so always first wash and remove any stains from the fabric to be dyed.

Faded fabrics cause special problems, since the faded areas will take the dye with more intensity than the non-faded areas, giving a patchy result. In such cases it is advisable to try and strip all the old colour out first.

Don't dye swimsuits if you do a lot of bathing in a swimming pool as no domestic dye is fast to chlorine.

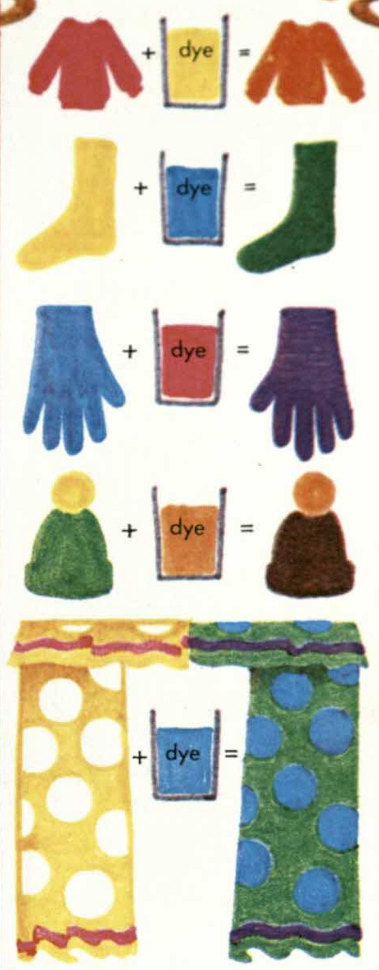
Patterned fabrics usually will not strip but they can sometimes be overdyed with interesting results. The strongest colour in the pattern should generally be picked to emphasize the new shade. For example, with a red, yellow and pale green pattern, you should use a red dye. The red will stay red, the yellow will turn orange and the pale green will become brown.

If you don't want red, you could use a blue dye to turn the red purple, the yellow into green and the pale green into greeny-blue.

The fibre. Before you start to dye an item, make sure you know what the fibre is. Glass fibre and many synthetics will not dye. Other fabrics need the dye most suitable for their particular kind of fibre.

Linings. Before you decide to dye or strip a lined item, make sure the lining is a type of fabric that can be processed. If the lining is a different colour from the main fabric, as is often the case with curtains for example, then you must bear in mind that the lining will dye a different colour, depending on its original shade.

Colour guide



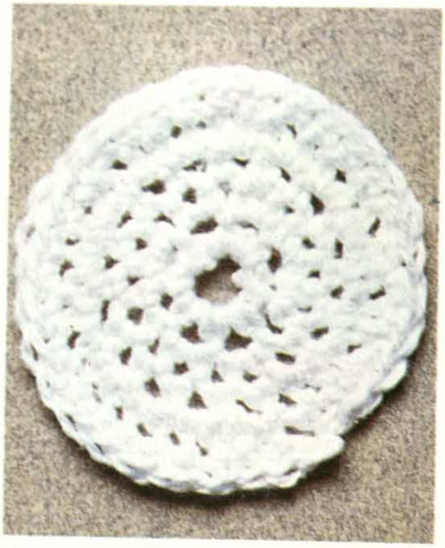
Objects of one colour dyed to another produce a third colour. Patterned curtains, when dyed to another colour, produce a different combination of colours.

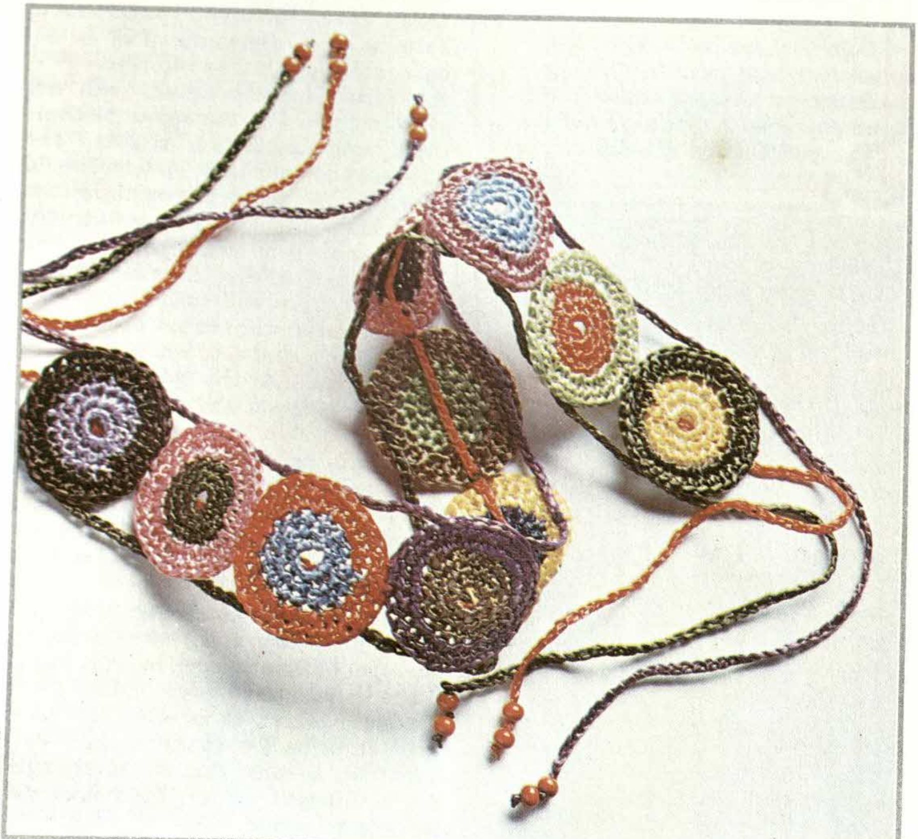
Present colour of article	Can be dyed
White	Any colour
Reds	Maroon, deep brown, navy, purple, crimson
Pale greens	Emerald, dark green, deep brown, navy
Dark greens	Darker greens
Yellows	Greens, tangerines, reds, navy, browns, maroons
Beige	Reds, browns, deep brown, maroon, dark green, navy
Brown	Deep brown
Pale blue	Royal navy, brown, deep brown, dark green
Royal blue	Navy
Any colour	Black

Remember it is only possible to dye darker shades to lighter colours if the darker colours are first removed.

Versatile round motifs

The beauty of circular motifs is that you just keep on working until they are the required size—as small as a coaster or as large as a rug. You can use any stitch and any yarn you choose. Try alternating rounds of double crochet and treble or work entirely in double crochet for a firm texture.





Above: circular motif.
Below: belt made of circular motifs, made up in Atlas Raffene. Designed by Pam Dawson.

To make a circular motif

Make 6ch. Join with ss to first ch to form a circle.

1st round. 2ch to count as first dc, work 7dc into circle. Do not join but cont working in rounds, working next 2dc into second of first 2ch.

2nd round. Work 2dc into each dc to end. 16dc.

3rd round. Work 1dc into each dc to end.

4th round. Work 2dc into each dc to end. 32dc.

5th round. Work 1dc into each dc to end.

6th round. 2dc into first dc, 1dc into next dc, *2dc into next dc, 1dc into next dc, rep from * to end. 48dc.

7th round. Work 1 round without shaping.

8th round. 2dc into first dc, 1dc into each of next 2dc, *2dc into next dc, 1dc into each of next 2dc, rep from * to end. 64dc.

Cont inc 16 dc on every other round until the motif is the required size.

To do this, the space between each 2dc into 1dc increases by one stitch every increasing round so, round 10, work 2dc into next dc, 1dc into next 3dc; round 12, work 2dc into next dc, 1dc into next 4dc.

Cont increasing 16dc on every alternate round in this way until circle is required size. Ss into first st of previous round and fasten off.

String place mat

For a place mat 30cm (12″) diameter

You will need:

1 ball of gardening twine (available from hardware and gardening stores)

No.4.00 ISR (US size H) crochet hook

To work place mat

Work as given for circular motif until 14 rounds have been worked, that is a total of 112dc, but do not fasten off.

To make scallop edging

Next round. 3ch to count as first dc and 1ch sp, miss first 2dc, 1dc into each of next 3dc, *1ch, miss 1dc, 1dc into each of next 3dc, rep from * to last 2dc, 1dc into each of last 2dc. Join with ss to second of first 3ch.

Next round. Into each 1ch sp work (1dc, 3tr, 1dc). Join with ss to first dc. Fasten off.

Raffia belt

Requirements to fit 58 (63:68)cm 23 (25:27)″ waist. Each motif measures 5.5cm ($2\frac{1}{4}$″) diameter. The figures in () refer to the 63cm (25″) and 68cm (27″) sizes respectively.

You will need:

Total of 3 (3:4) hanks of raffia in one colour or oddments

No.3.00 ISR (US size F) crochet hook

To work belt

With No.3.00 (size F) hook and any colour work first 3 rounds as given for circular motif. Join next colour and work 2 more rounds as given for circular motif. Fasten off. Make 9 (10:11) more motifs in same way.

To make up

Join motifs tog where edges touch to form one row. Make 3 separate ch 122 (127:132)cm 48(50:52)″ long. Working on wrong side, stitch one ch across back of top edge of motifs, one across centre and one across lower edge, to tie at centre front. Trim each end of ch with wooden beads if required.

Right: circular string place mat, in double crochet with a shell edging. Designed by Pam Dawson.

Steve Bicknell

Machined squares and rectangles

Cloth — patchwork 1

Camera Press

Squares arranged diagonally make this attractive bag.

Development of patchwork

Patchwork is a truly sentimental craft which has always been connected with sharing and neighbourliness, particularly in America. It originated at a time when every scrap of material had a value and was saved to be sewn to one scrap and another to form fabric for clothing and covering. It is from these humble beginnings that real art emerged as women began to use their oddments of cloth to create rich and colourful designs.

Today the art of patchwork is having a great revival—not only because of the real practical need for re-cycling materials, but because it provides a means of relaxation and for exercising one's artistic talent in creating unique and exciting new patchwork designs. It can be worked in a wide variety of materials and has instant effect and is the ideal pastime while watching television or talking to friends.

Nowadays beautiful patchwork fabric can be made quite simply and quickly on any sewing machine. Oddments of material, which would otherwise be discarded, can be cut into squares or rectangles and joined together with straight machine stitching to form strong fabrics in a variety of patterns, colours and shades. Make them up into eye-catching clothing, soft furnishings for the home, children's toys etc. Patchwork can also be appliquéd on to plain fabrics to form striking decorations or borders for such things as skirts, curtains or bedspreads.

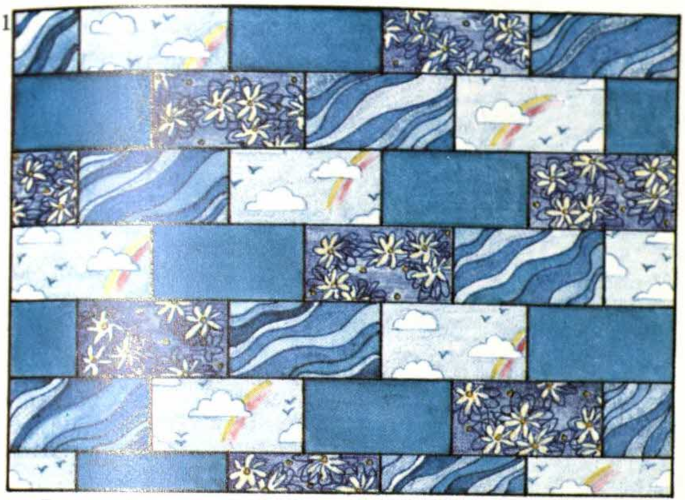
The fabric of patchwork will often conjure up a score of memories—a scrap of the first dress you ever sewed, a piece of the blouse that never looked right with anything—reminders of friends and family. Autographed patches can be turned into a cushion or wall-hanging to make a charming memento of a special occasion.

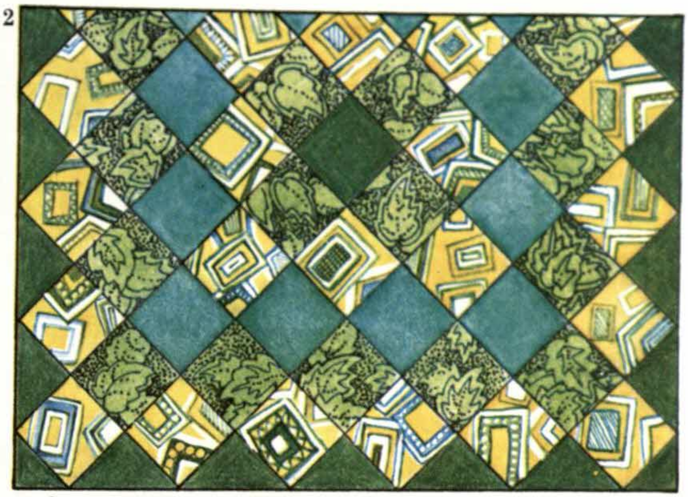
Choosing fabrics

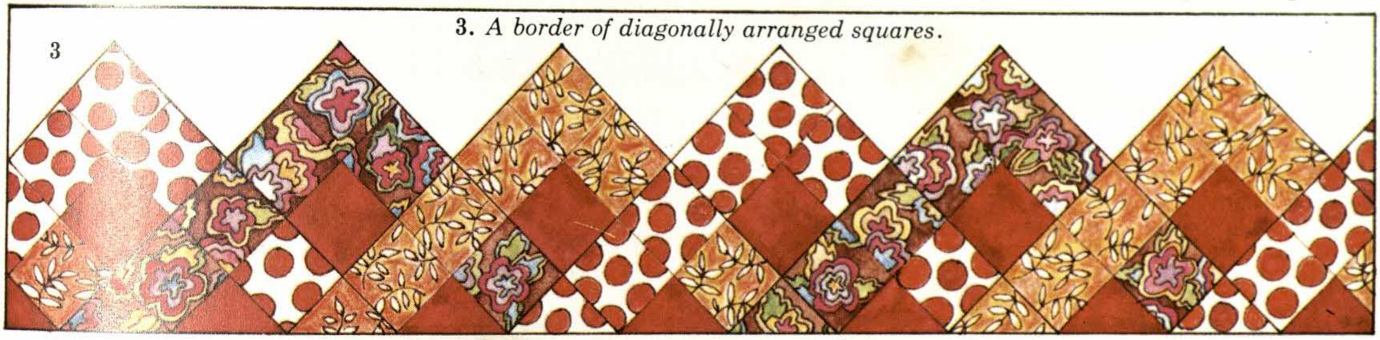
The best fabrics for patchwork are those which do not fray or stretch and are firm in weave and texture. Good quality cottons head the list from all points of view. Man-made fibres are not so easy to use because of their crease-resisting qualities. Three important rules are: never mix silks with cottons, only combine materials of equal weight and thickness and never mix old and new fabrics—the stronger fabric will wear out the weaker one.

If in doubt always test materials for colour-fastness if the finished item is to be washed and, if using new cotton fabric, it is best to wash it first in case of shrinkage.

Gathering the scraps. The fabrics used in a patchwork can be gathered from many sources and it is useful to keep a bag or box in which to store


1. *Rectangles arranged in a 'brick wall' pattern.*


2. *Squares arranged diagonally with triangles at edges.*


3. *A border of diagonally arranged squares.*

Gwen Simpson

them. Home dressmaking, either your own or a friend's, will yield a good supply of scraps: you can also use old clothes, providing the material is still strong, along with the laundered gleanings from second-hand sales. There is usually a remnant box in any shop selling fabric and these can provide useful offcuts at a reasonable price. The shopkeeper might also be willing to part with out-dated colour swatches of manufacturers' fabrics.

Part of the fun of patchwork is in collecting the right patterns and colours to create a design: and perhaps the sense of achievement is even greater when one knows that a skirt, shirt or bedspread was put together from scraps that cost next to nothing!

The design

When you have assembled your oddments of fabric, decide on the size of patches to be used in the patchwork, bearing in mind the size of the finished article and how it is to be used. It is pointless to use very large patches on a small item which will not show them off to advantage. When you have cut the patches, take time over planning the design—this can be an absorbing and enjoyable stage. A good design is generally a simple one and it's fun to work it out in shades and tints. Random schemes can be very pretty too, especially if some sort of colour grouping is attempted. If you are using a fabric with a nap or pile, the direction of each patch should also be carefully considered.

Squares or rectangles can be sewn together in a 'hit and miss' pattern of alternating light and dark fabrics or in the rather more sophisticated 'brick wall' pattern (fig.1), which consists of rectangular patches of different shades sewn together like a brick wall. These designs are known as 'one patch'—ie an all-over design made from the same repeated unit.

With experience you can attempt more complicated patterns by dividing the basic square or rectangle in half diagonally (two-patch) or into four smaller squares or rectangles. Squares can also be used diagonally (fig.2) and look particularly effective as borders, appliquèd directly on to a plain background (fig.3).

Two-patch patchwork and squares used diagonally require accuracy and are best worked by hand.

Machine worked patchwork

Equipment. The equipment needed for machining patchwork is probably already available in the home—a fine needle for the machine and a fairly fine thread for sewing, a ruler and pencil for drawing the patches on to the fabric and a sharp pair of scissors for cutting them out. You will also need an iron for pressing the seams.

A board or small table is useful for designing the arrangement of the patchwork. You can use it to lay out the patches like a jigsaw, and the 'board' can be anything into which pins can be pushed to hold the patches in place—cork matting, thick cardboard, a card table or a carpeted floor.

Making the patchwork. First decide on the size of the squares or rectangles to be used, allowing 9mm ($\frac{3}{8}''$) for seam allowances on all sides of the patch.

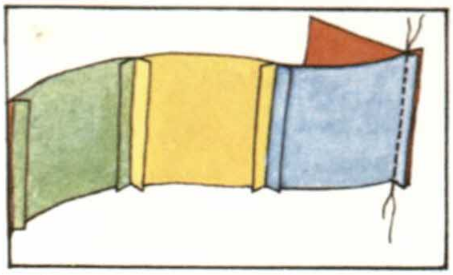
☐ Choose the fabric pieces to be used in the design and iron them. Then, working along the straight grain of the fabric, draw each patch accurately on to the wrong side of the fabric with a ruler and pencil (a sharp white crayon is best for darker fabrics).

☐ When cutting a large number of patches of equal size it may be a help to construct a simple template from a piece of heavy card or plastic. Draw the area of the patch, including seam allowances, on to the card with pencil and ruler and cut it out very accurately. This template can then be placed on to the fabric and used as a pattern for the patches. Card can wear quite quickly so you will need to keep checking that the template has not become inaccurate.

☐ Cut out all the patches carefully with a pair of sharp scissors.

☐ When you have cut out the required number of patches you can begin to plan the exact design of the patchwork by spreading out the patches and building up the required pattern.

☐ With right sides facing and taking 9mm ($\frac{3}{8}''$) seam allowance, machine stitch the patches together into a strip the required length of the article you are making (fig.4). Use straight machine stitching and a toning cotton. If you want the seams to match later on make sure that you take exactly the same turnings for each join—you can use the foot on the sewing machine as a guide.


4. *Stitching squares into a strip.*

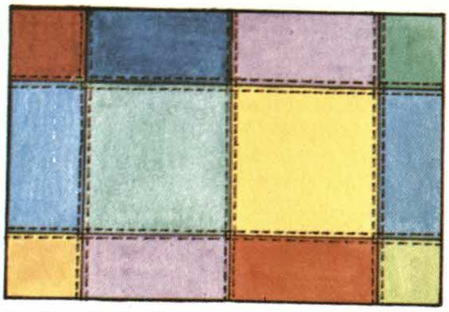
☐ When you have enough strips to make the required width of fabric, press open all the seams.

☐ Before machining the strips together it is advisable to check that all the corners of the patches match up, if it is accuracy you are after. It may be possible to ease the fabric slightly to ensure a match. If there is still a slight error it is possible to adjust this by re-stitching part of the seam that is inaccurate, gradually taking in or letting out the amount required. Unpick the old line of stitching.

☐ Machine stitch the strips together, right sides facing, taking 9mm (⅜″) seam allowance.

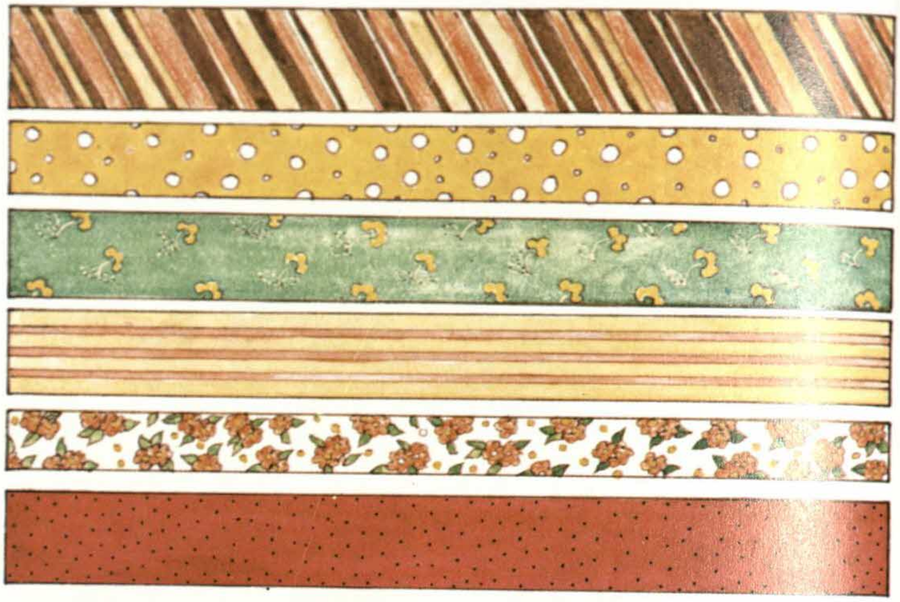
☐ When you have finished, press open the seams and tie off and cut the ends of thread.

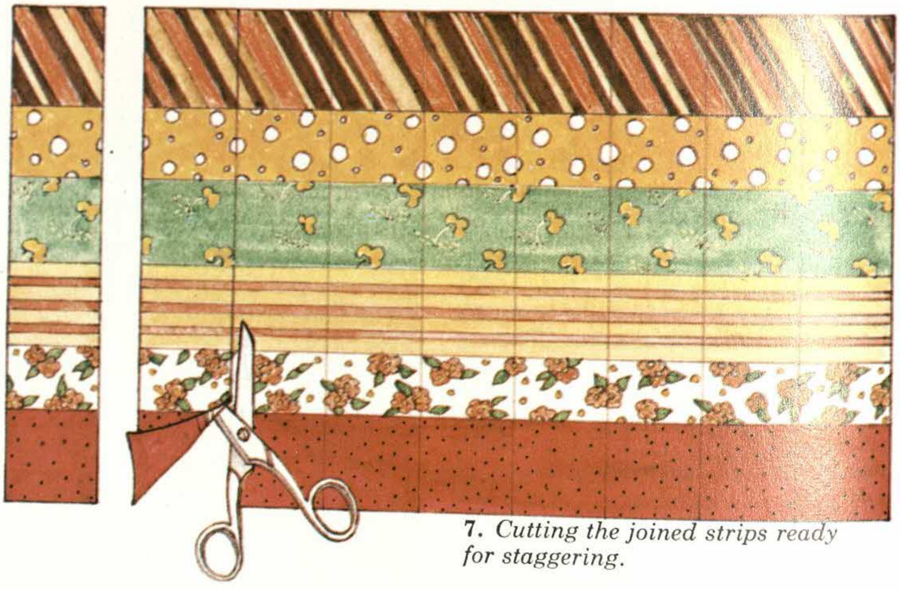
Strengthening the fabric. To give extra strength to the patchwork you can carefully top-stitch up and down the lines of patches on the right side of the fabric, 3mm (⅛″) from either side of the seams (fig.5). This helps to keep the seam allowances in place and is particularly advisable for garments such as skirts and head scarves that will need regular washing.


5. *Topstitched squares.*

Cut and stagger technique

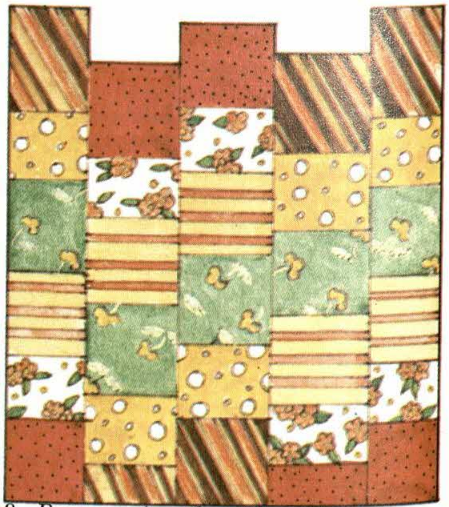
Another way of joining machine patchwork is illustrated in figs.6 and 7. This method is extremely quick and


6. *First stage in cut and stagger technique: cutting and arranging strips.*


7. *Cutting the joined strips ready for staggering.*

Steve Bicknell

A charming cushion made up in cottons using the cut and stagger technique.


8. *Rearranging the strips to stagger the pattern.*

easy although the distribution of colour and design in the patchwork is fairly limited.

☐ Take strips of material of equal length and equal or varying width (fig.6) and machine them together, right sides facing, taking 9mm (⅜") seams. The number and width of the strips, and their length, will be determined by the size of the patchwork required.

☐ Press open the seams, then cut across the fabric at intervals, in straight lines, allowing for seams on each side of the cutting line (fig.7).

☐ The resulting strips can be rearranged in a variety of ways and machined together to form patchwork fabric in a random pattern of rectangles (fig.8).

If the strips are to be staggered they will have to be longer than the finished piece of work to allow for waste.

Squares. A patchwork of squares can also be made in this way but, in this case, the strips must be cut out accurately into equal widths and lengths, depending upon the size of square required. The seam allowance of 9mm (⅜") must be accurately measured out all round the strips and they must be accurately sewn together.

Patchwork for clothes

Machine patchwork can be used in exactly the same way as any other fabric when making up clothes from a paper pattern.

To begin spread out all the pattern pieces needed to make up the garment, leaving those for facings to one side—these should be cut from a single piece of fabric rather than patchwork.

Cut out patches in squares or rectangles, allowing for 9mm (⅜") seams all round, and lay them on a table until there are enough to make up each pattern piece—those pattern pieces that lie on a fold will, of course, need twice as much patchwork.

Make sure that the colours used in the patchwork are evenly distributed then, keeping the patches for each pattern piece separate, make up each section of patchwork as explained earlier.

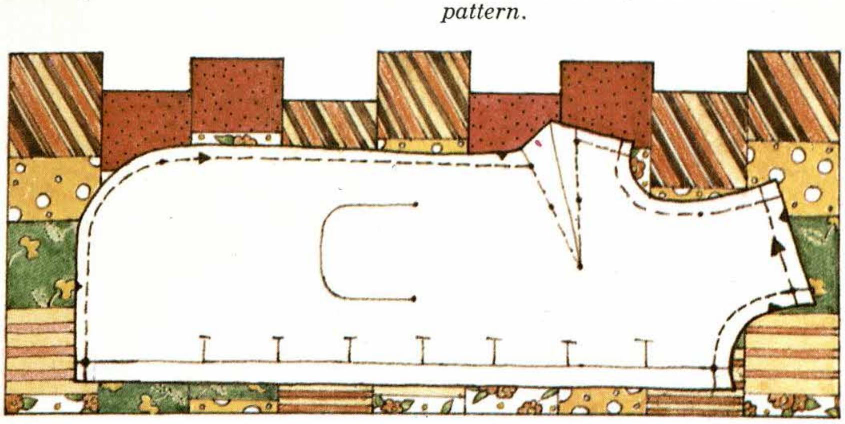
The cut and stagger method for patchwork can also be used—just make sure that the strips are the right length and that the width will be enough to make up each pattern piece. Alternatively make up a long length and lay out pattern pieces as on ordinary fabric. Do top-stitch the patchwork fabric if the garment you are making is to be washed frequently.

Pin each pattern piece on to the patchwork (fig.9) and cut them out, then cut out a lining from lining fabric. You can tack the lining to the patchwork pieces and make them up together following the pattern instructions, or you can make a loose lining.

Femina

Above: the simple lines of this blouse make it an ideal style for machine-worked squares.

9. *Below: pattern positioned on a piece of cut and stagger patchwork which has been made up to accommodate the pattern.*



Gwen Simpson

Perfect picture frames

Wood — carpentry 3

Carpentry and cooking have a lot in common in their methods. Both have specialized tools and ingredients and require practice to make the whole process easy and enjoyable.

The most important result of learning carpentry is that it enables you to make so many of the things that are very expensive to buy.

Picture frames are particularly expensive to have specially made because there is a lot of hand work involved, but they are relatively easy and quick to make. Once you have made frames for all your own prints and pictures, you'll doubtless find friends who have something they want to frame.

There are a variety of shapes available in ready-made mouldings that can be purchased from hardware stores, do-it-yourself shops etc.

There are several ways of connecting the pieces at the corner of a frame but for picture frames the mitre joint is usually used (fig.A).

The most difficult part to do is to get the opposite pieces of the frame exactly the same length. The only way to do this is to take care and learn from your mistakes.

Practise sawing and measuring on short bits of moulding or ordinary wood to get the feel of it.

The mitre is simply the term for two pieces of wood joined at right angles after they have been sawn at 45°.

There are several ways of joining the pieces but the easiest is the nail and

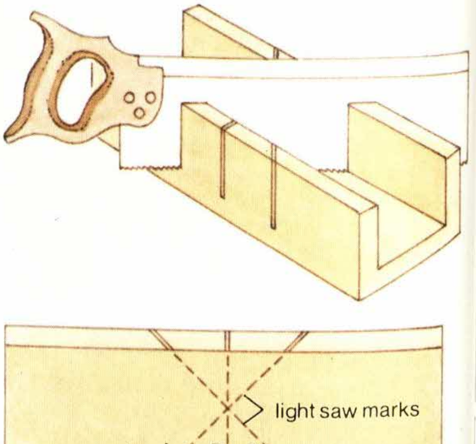
Small picture framed with a mounting board. Supplied by Blackman Harvey.

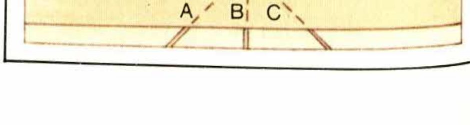
Dick Miller

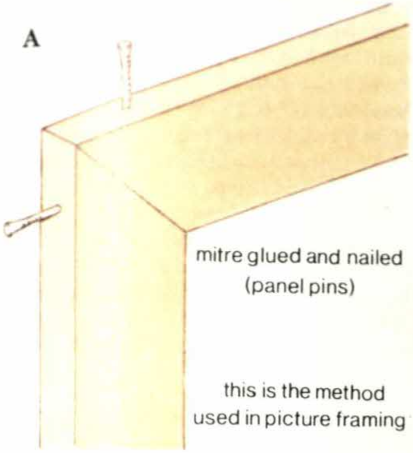
Tool box

Mitre box. If you intend to make several frames a mitre box is essential. It is inexpensive and can be bought from hardware stores.

Mark the mitre box by placing the saw



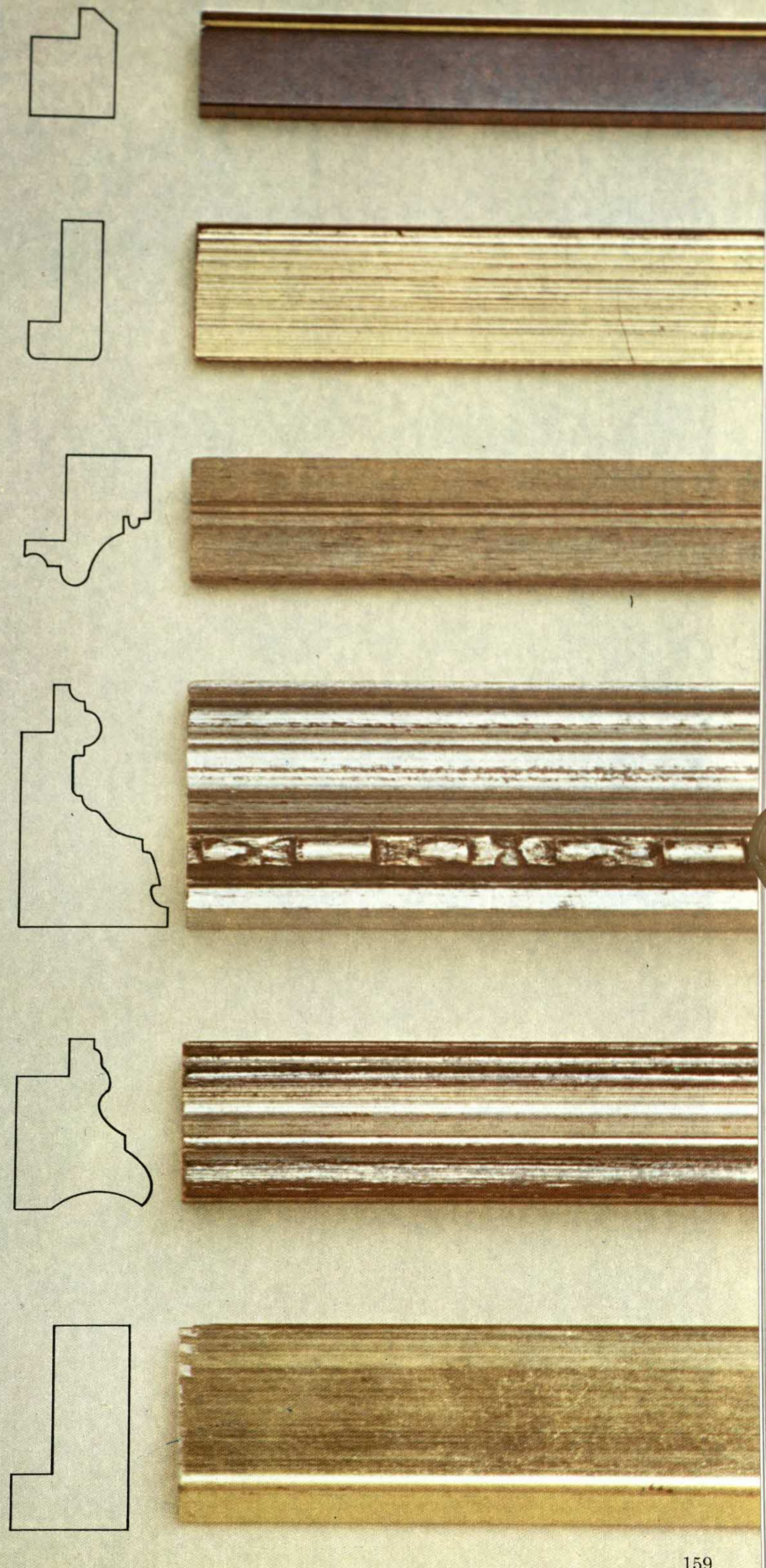




A mitre joint, glued and nailed, is the method used for making frames.

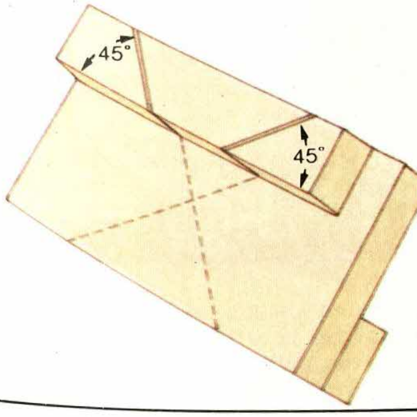
glue technique used by most picture framers. The step demanding the most care is the nailing itself for it is a little difficult to keep the two 45° surfaces from sliding. It helps if you first glue the pieces and let them dry in position with a string loop all round the edge, to hold the frame secure before nailing the corners.

Decide how you want the frame to look. You may have maps or prints from old books that, because of their size, need small, delicate frames with the wood painted white, black or an antique gold. Initially buy ready-made moulding which comes in a variety of shapes and finishes to suit your purposes.



Various shapes and sizes of mouldings. Supplied by Blackman Harvey.

in each of the three slots in turn and make a slight mark in each direction on the base of the box. These will be used as guide lines in measuring. If you are using a bench hook, instead of a mitre box, carefully mark two 45° lines and cut a groove along each one as shown. Use a protractor to measure the 45° angle or use a compass and bisect a 90° angle. Saw and mark each piece as for the mitre box.



Paul Williams

To make a picture frame

You will need:

Tools

Steel ruler

Mitre box

Panel saw—it must be a fine saw with 0.3m-0.4m (12-14points); a rough saw will have a lesser number of points. A fine tenon saw will do

Nylon cord—about 2m (2yd) for holding frame together while glue dries.

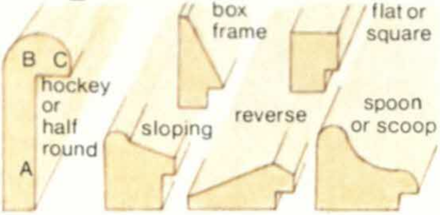
Nail punch

Hammer

Materials

Picture frame moulding: add 10cm (4") to each dimension of the picture and add up the 4 lengths. Thus for a 30cm x 40cm (12"x16") frame you will need 1.8m (72") of 10mm (⅜") half-round moulding (fig.B). The moulding can be bought from hardware stores, timber merchants and do-it-yourself shops

B



Picture frame moulding can be bought in various sizes and shapes.

Mounting board: if the picture is not going to fill the entire frame use a mounting board to surround the area between the picture and the frame

Glass: 2mm thick (18oz). Have this cut to size by a glass merchant or hardware store. Determine the size after the frame is assembled

Backing board: same size as the glass—any stiff cardboard will do

Panel pins: fine 19mm (¾"): about 24

2 hooks or staples to hold the wire

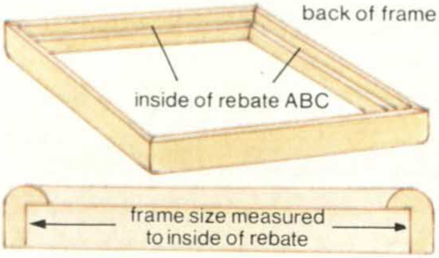
Wire: picture hanging wire, usually brass, can be bought from large department stores

Fine grade glasspaper

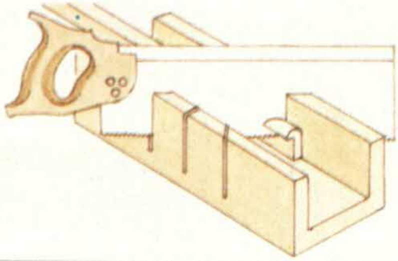
Wood glue

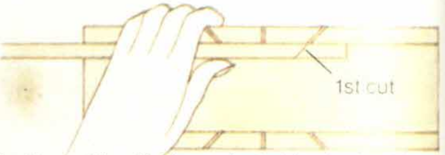
---

1. Measure the size of the picture to get the frame size. The size of the frame is the dimensions of the inside of the rebate—ie, the size of the glass and the backing cardboard. Assume the size to be 30cm x 40cm (12"x16").



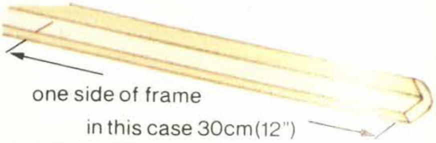
2. Cut off one end of moulding as shown, with back against side of mitre box. Start sawing towards yourself with the saw tilting forwards a little. Then level the saw and with easy, unhurried strokes saw off the end as shown.



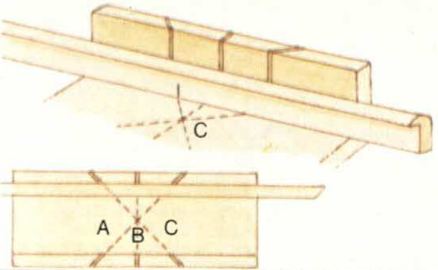


hold moulding firmly against side of mitre block

3. Measure and mark the piece of moulding as shown.

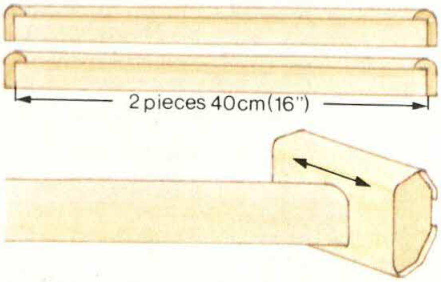


4. Match this mark with line C as shown and saw through the moulding. Repeat this to get an identical piece. It is essential that the lengths are exactly the same.

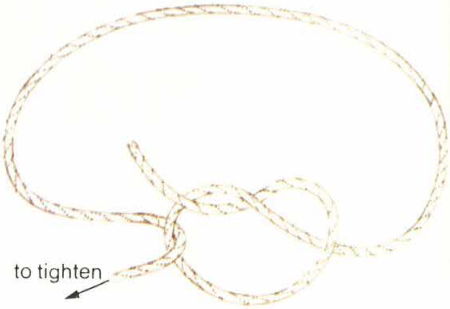


5. Carefully measure and saw two pieces 40cm (16") long.

6. Sand the cut ends of the pieces lightly to remove rough edges. Use fine glasspaper with a sanding block.

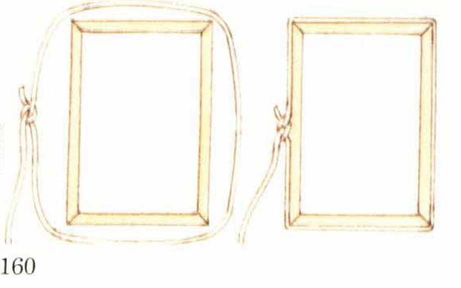


7. Prepare the nylon cord by tying a slip knot. This can then be tightened around the frame by pulling one end.

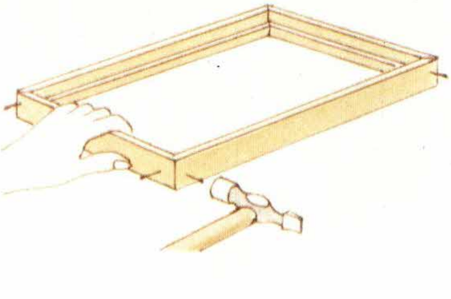


8. Glue the frame together. Put a dab of glue on each end and smooth it with a piece of wood. Arrange the four pieces together with cord round them.

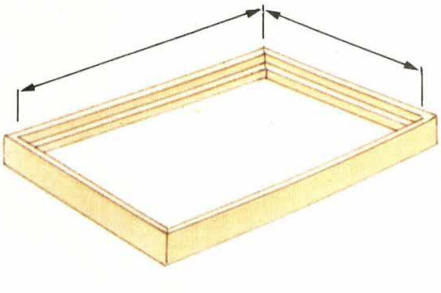
9. Tighten cord, adjusting corners as you tighten. Leave to dry.



10. When dry, remove the cord and nail in panel pins as shown. Nail carefully, holding the side receiving the nail very firmly against a flat working surface. Use a nail punch to set nails slightly below surface of wood.



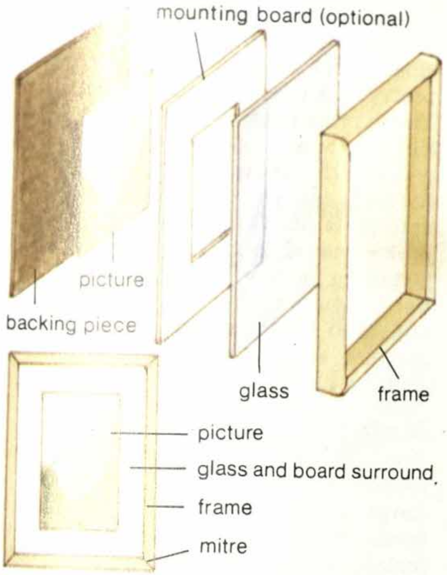
11. Take measurements of the back of the frame and order glass to fit. Cut the backing board (and mounting board if necessary) to fit inside. Wax, stain or paint the frame.



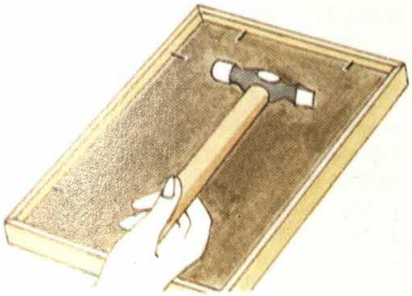
Paul Williams

Assembling picture frame

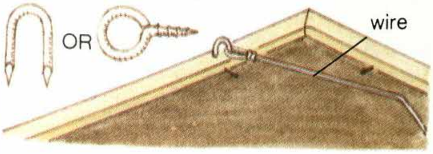
12. Mounting board is only necessary if the picture is smaller than the frame. Clean the glass, then assemble as shown. Glue the picture with rubber-based cement to the backing board or, if it is too valuable or thin, place it between the layers and hold it in position while carefully assembling the picture. If the backing is stiff and cut to the right size it will hold the picture in position once the backing board is secured.

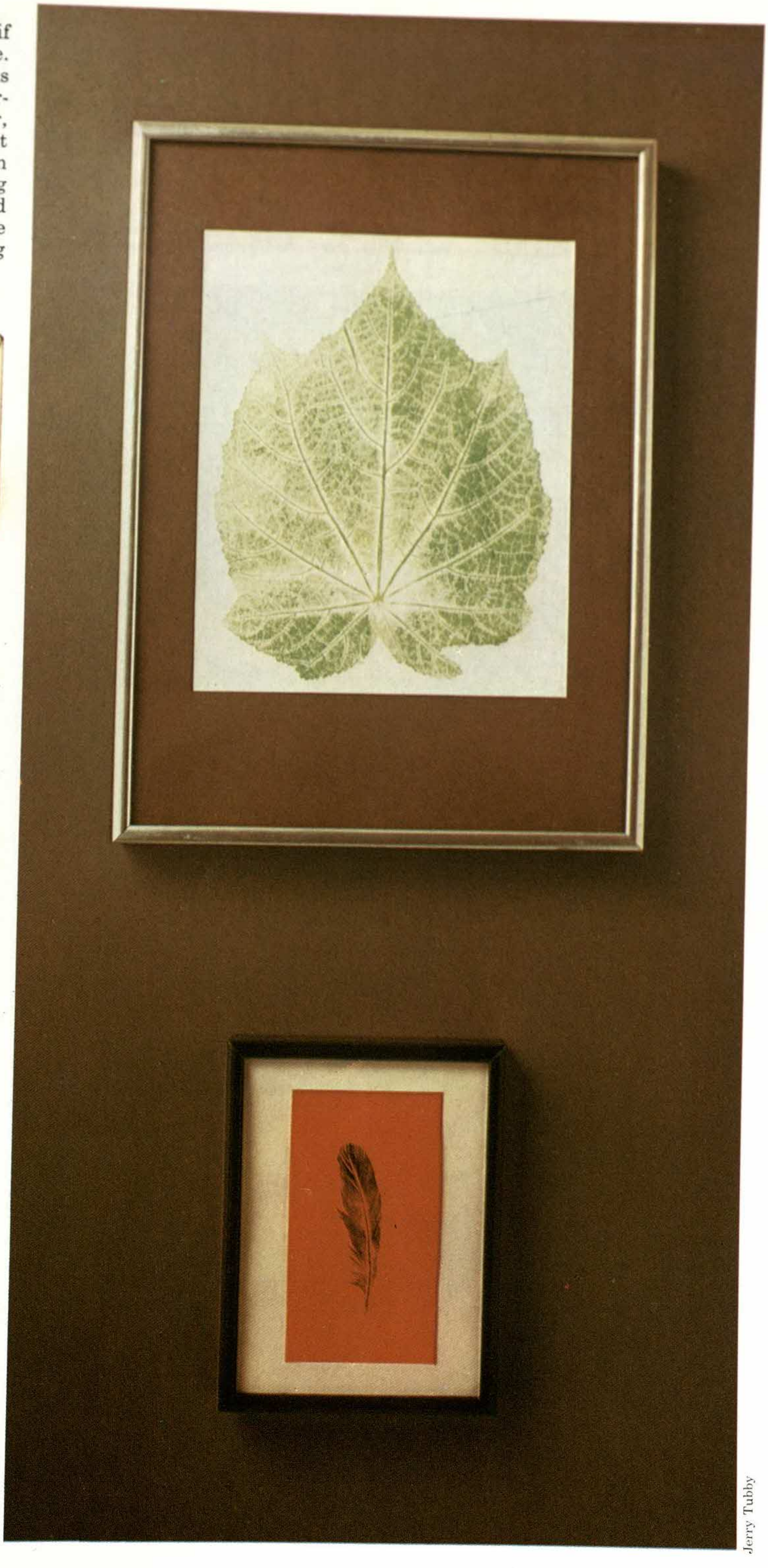


13. Nail panel pins on the inside back of the frame to hold the layers down firmly. Leave 6mm (¼″) sticking out. To prevent dust collecting, cover the entire back with brown paper.



14. Put in hooks or staples. Attach the wire securely to the hooks so that the wire will not slip loose. Do not leave the wire ends too long or they will stick out from the frame.





The completed frames can be finished in different ways. They can be left natural or you can paint them with gloss or matt paint. Designed by A. Martensson.

Jerry Tubby
Steve Bicknell

Rocaille bead designs

Sandra Lousada

Rocaille beads make delicate bracelets, necklaces, rings. Karina Sterry designs.

Every child loves threading beads—that's how easy it is! Easy but so effective. The simplest beads of all—tiny rocaille beads threaded one after the other—rely on their colours for their impact; adding a small motif here and there, like a loop or a tiny flower, gives them just that extra individual touch.

There are several techniques to experiment with which are simple and straightforward to master, yet give a great variety of effects.

You can use any type of bead you like, but the tiny rocaille keep the flower shape best and have the delicately pretty look of embroidered daisies.

You'll probably find that a maximum of three colours gives the most attractive results. If you make long necklaces they slip easily over the head and their pattern is not interrupted by a clasp. Make several to wear together with a matching bracelet.

For threading, linen thread is strong and ideal for most beads. Tight neck chokers should be threaded on to shirring elastic.

Materials

You will need a selection of coloured rocaille beads.

Large sewing needle for threading the beads. Make sure that it will pass comfortably through the holes in the beads being threaded.

Linen thread or shirring elastic on which to thread the beads.

Glue or clear nail varnish, for securing the ends of the thread.

Cushion pad or large, firm pin cushion if you are using the double threading technique, given below.

Threading

Cut a length of thread or shirring elastic to the desired length, allowing an extra 12.5cm-15cm (5″-6″) for the needle to be used freely. In the case of a necklace make sure that the length goes over the head easily before starting to thread the beads; it's extremely frustrating to have three-quarters of the necklace finished and then discover that it isn't going to be long enough.

Thread a needle and tie a double knot at one end of the thread. Pass the needle through a bead and slide the bead down to rest against the knot. Pass the thread through the knot to secure the bead and pull tightly. Then thread on selected beads and, at intervals, work one of the motifs given below.

Motifs

Triple bead motif. After having threaded a number of main-colour beads, thread 3 contrasting ones. Pass the needle up through the first of the

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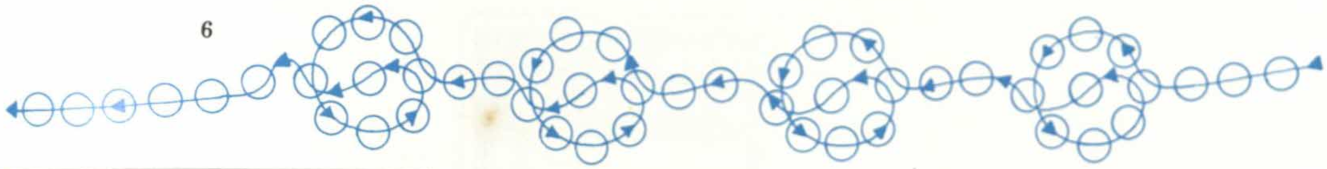
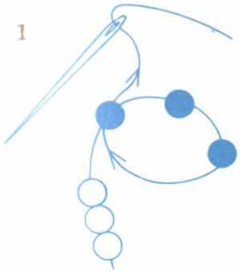
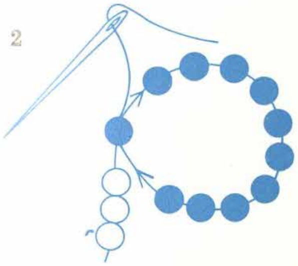




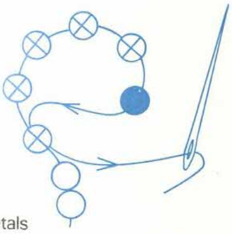
● contrasting bead

1. *Triple bead loop.*



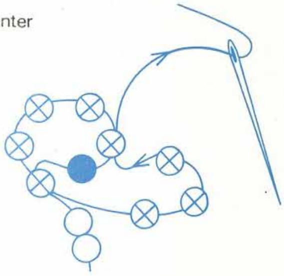
● bead for loop

2. *Loops can vary in size.*



⊗ petals

● center



3, 4. *Daisy motifs are made by a variation of the basic bead loop.*

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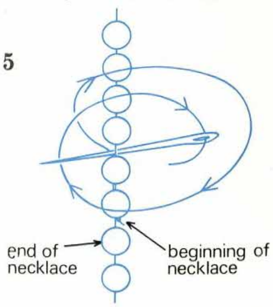


5. *Fastening off the ends.*

6. *Flower motifs can be threaded at intervals to make a daisy chain.*

contrasting beads and draw up the thread tightly (fig.1).

Bead loop. Make this in the same way as the triple bead motif but add as many contrasting beads as you like to the loop before passing the needle through the first contrasting bead and pulling the thread tight (fig.2).

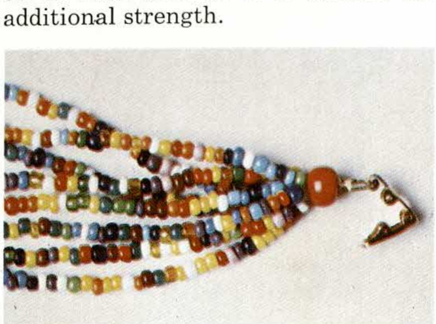
Daisy motif. Thread 5 beads of one colour, followed by a bead of another shade. Pass the needle through the first bead (fig.3) and pull tightly. Thread 3 more beads of the main colour, then pass the needle through the bead on the other side of the contrasting one (fig.4). Pull the thread tightly to form the flower. The contrasting bead now lies in the centre of the circle formed by the 8 main-colour beads making an 8-petal flower.

Fastening off the ends

The ends of the thread must be finished very securely indeed and this is done by working a series of slip knots (sometimes called buttonhole stitches) between the beads.

With the needle still on the thread, pass it through the first few beads at the other end of the necklace. Make a firm slip knot: to do this pass the needle round the thread between two beads and take it through the loop thus formed (fig.5). Pull tightly. Pass the needle through a few more beads, then make a second slip knot. Work a third if the necklace is particularly long or heavy.

Finally, pass the needle through four more beads and then cut the thread. Dab a little clear glue or nail varnish on to each knot as it is worked for additional strength.



Multi-coloured bracelet. This bracelet, also shown on the model, has eight strands, each 16cm ($6\frac{1}{4}$") long and consists of 760 rocaille beads. At the ends the strands are tied together on a clasp after being threaded through a single rotelle bead.

Red and white multi-strand necklace appears on the model also. There are four strands 61cm (24") long with 680 red and 680 white rocaille, 152 small rotelles, one on each side of the 76 large coral rotelles.

White and blue necklace is made using two threads; the white rocaille sections have two strands while the blue rotelles are threaded using both threads as one. Each white strand has 40 beads joined by 12 blue rotelles; in all 880 white beads, 132 blue beads. This necklace is 91.5cm (36") long.

Bead loops. Two of the rings have four-bead loops while the red and white necklaces above and below have three- and five-bead loops respectively. To make to fit, there are 15 rocailles per 2.5cm (1").

Red and yellow flowered necklace uses the daisy motif in groups of four with two white beads between each flower followed by white sections of about 80 rocaille beads each. Follow fig.6 or figs.3 and 4 for threading.

Black and white flower necklace is made by repeating the daisy motif, each containing eight beads plus a gold centre. Four flower motifs equal 3cm ($1\frac{1}{4}$") in length.

Victoria Drew
Paul Williams
Steve Bicknell

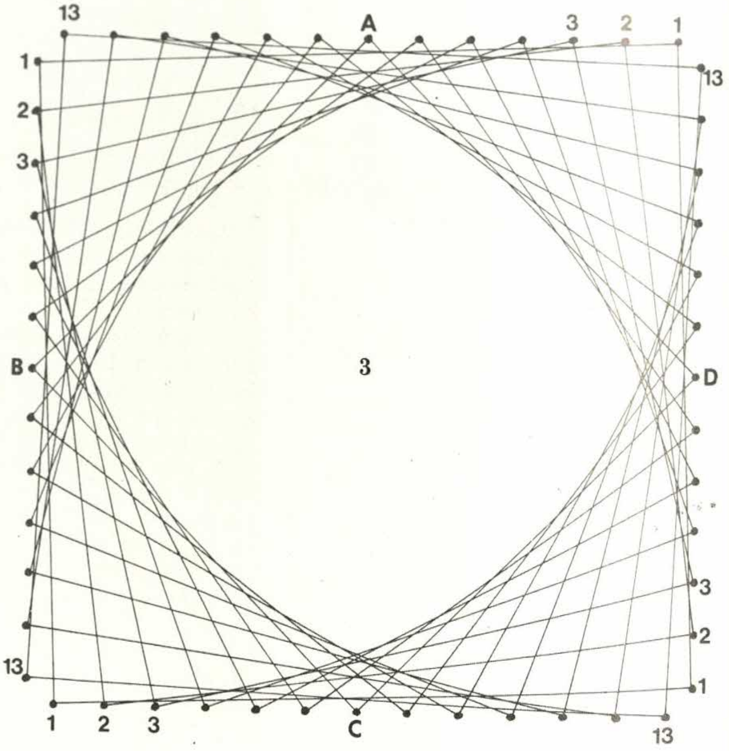
Geometric picture patterns

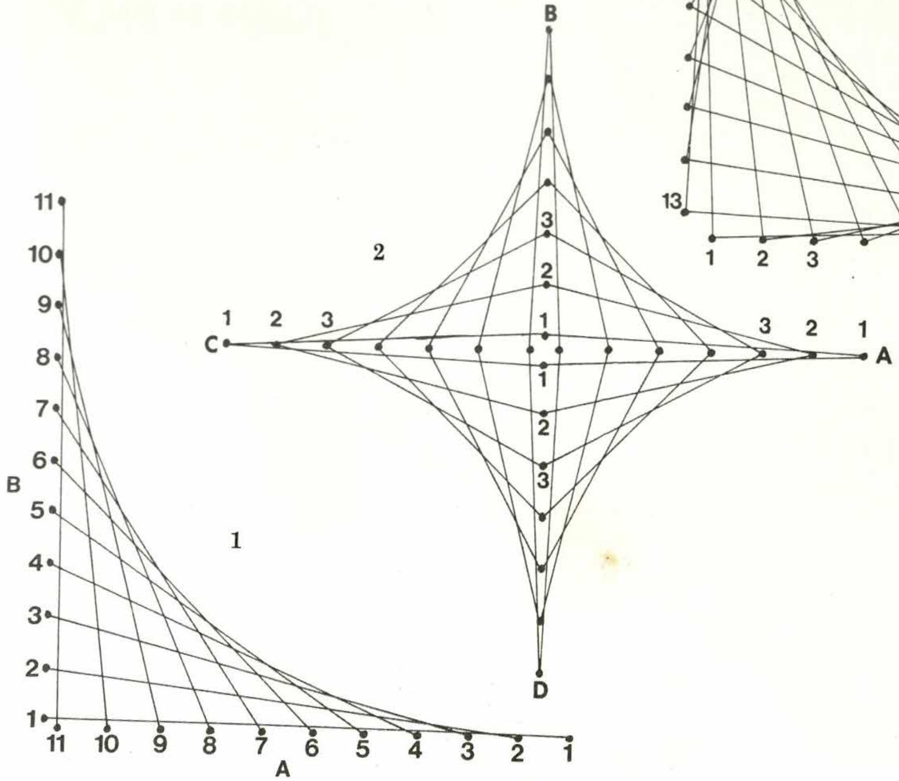
Yarn — pin art 1

The art of making pictures out of such everyday items as pins or nails and yarn has become a popular hobby among people of all ages.
The great fascination of this craft is the formation of natural curves from straight lines. By hammering rows of pins or nails into a board and winding yarn round them in sequence, curves and a three-dimensional effect develop as the different concentrations of thread create highlights and shadows.
It is the angle of the lines of pins to each other that determines the curves and from this, stunning geometric designs or representational pictures can be made.
Once you have mastered one or two basic principles, you can develop your own designs. Like a kaleidoscope, there is no end to the permutations.
There are many different materials and yarns you can use to vary the pictures. Felt, hessian or cork, for example, can be used for the backing board cover. Wool, string, wire or cotton produce different effects for the threading. To start with though, the essentials are not expensive to buy—in fact you will probably have a piece of wood and some nails or panel pins, yarn and a hammer in the house.
You will also need graph paper, a pencil, ruler and compass.

Basic designs

Fig.1. The formation of a curve from straight lines. Two lines, drawn at 90° to each other, are divided up equally into a number of points, in this case eleven in each.
By drawing a line from A1 to B1, A2 to B2, A3 to B3 etc. a curve will be formed. The closer the dots are brought together, the smoother the curve will be. Exactly the same effect can be achieved with nails and yarn, each dot representing the nail and the line representing the yarn.
Fig.2. One angle is taken a step further, with four lines at right angles to each other forming a cross. Providing that there are the same number of dots in each line, the curve can be achieved. With the nails in position, thread this design with a single piece of yarn starting at position A1, taking the yarn round B1, to C1, and continuing in numerical order until all the pins are engaged with yarn.
Fig.3. A further variation on the angle, using four straight lines at right angles to form a square with the curves overlapping each other. Again it is essential to have the same number of dots in each line and to join them in numerical sequence. It is not necessary for the lines to be the same length.





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Dept of Extension Services.
CALCUTTA-27

Graham Elson

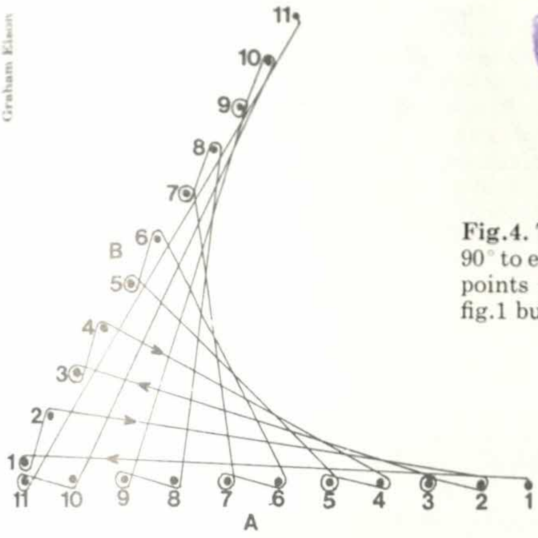
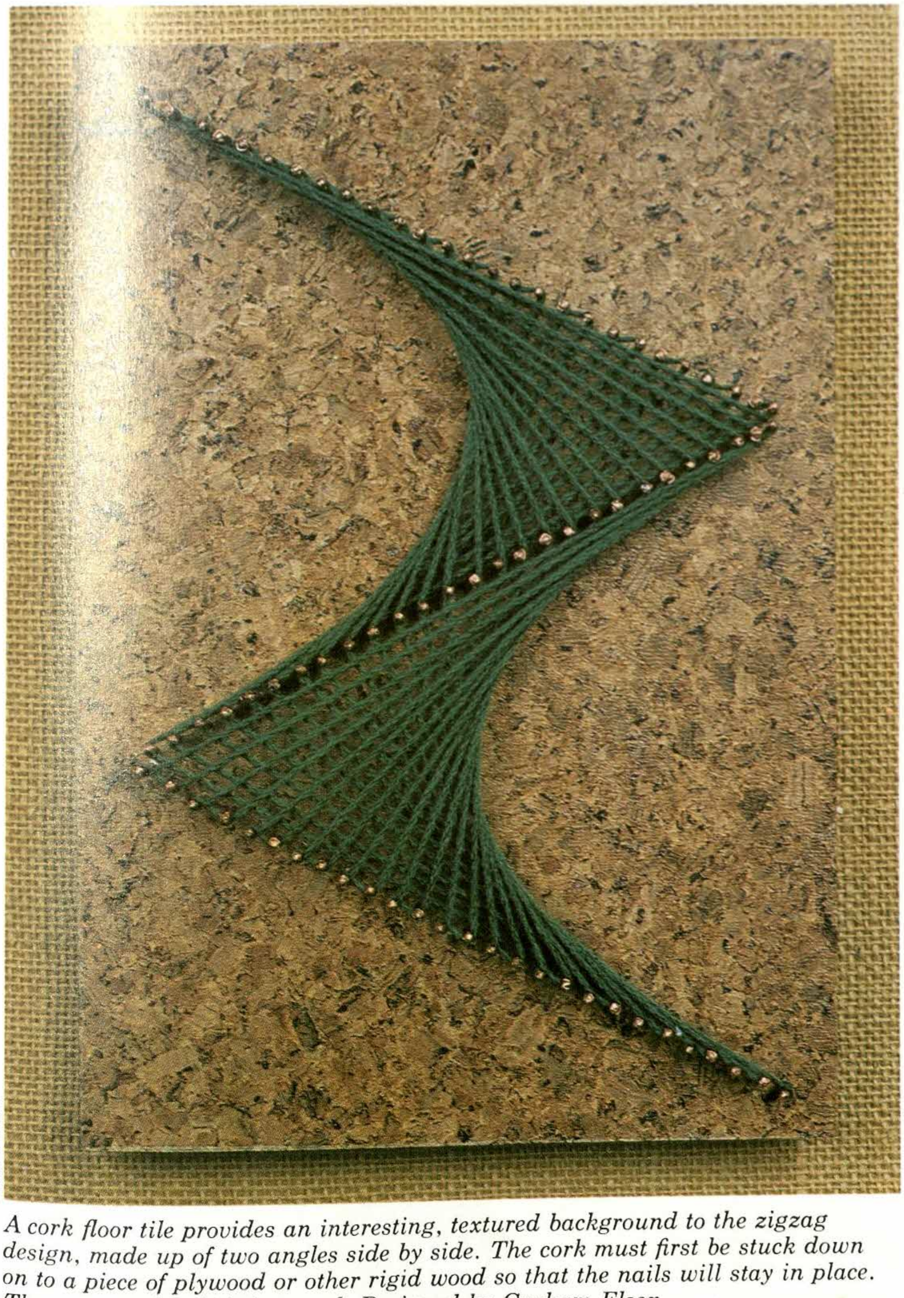
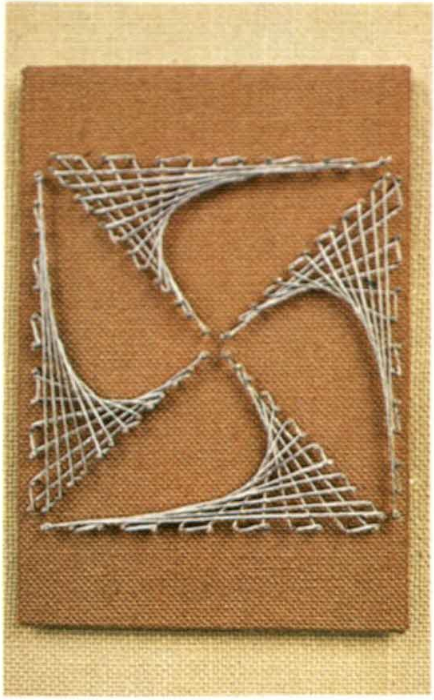


Fig.4. To get away from lines of dots at 90° to each other, reduce the angle. The points are threaded in sequence as in fig.1 but a steeper curve results.

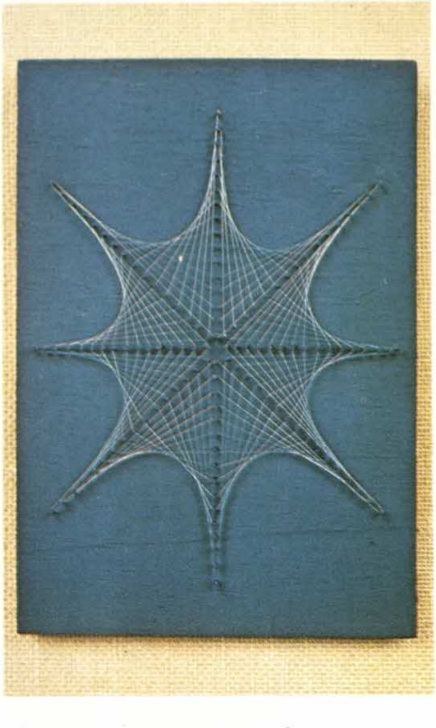


Graham Elson

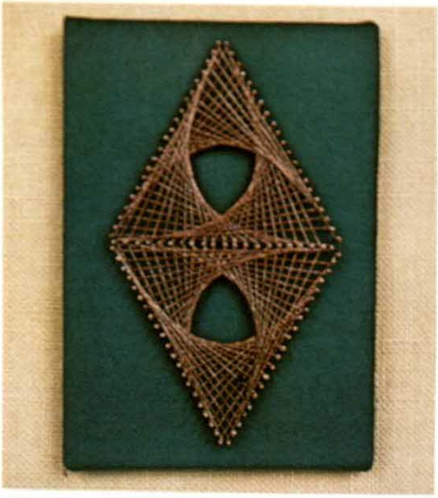
A cork floor tile provides an interesting, textured background to the zigzag design, made up of two angles side by side. The cork must first be stuck down on to a piece of plywood or other rigid wood so that the nails will stay in place. The yarn used is knitting wool. Designed by Graham Elson.



On a hessian backing, household string gives a design with lots of texture. The hessian is glued on 12mm (½") thick plywood. The yarn is worked as in fig.4, working around two nails each time.



There are many sources of yarn—gardening equipment and fishing tackle supply some. The simple star shape, consisting of eight angles, is threaded with fishing twine. The nails are hammered into an unpainted board and then nails and board are painted a matt blue. As the fishing twine is very fine, small-headed nails, closely spaced, look best.



The diamond pattern is on a 12mm ($\frac{1}{2}$") thick plywood board covered with green felt and threaded with copper lurex yarn to give a strong contrast.

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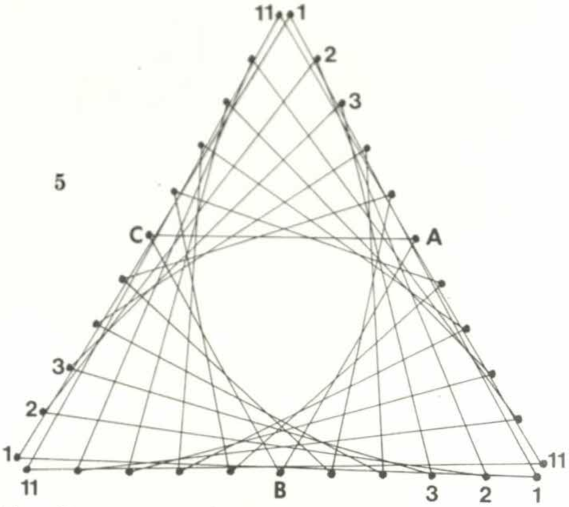
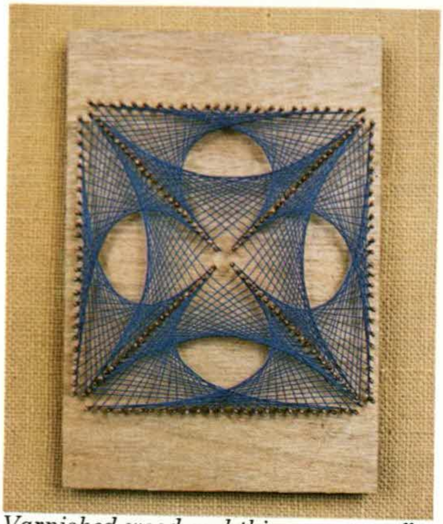


Fig.5. Add another line to an angle to make a triangle and then a pattern develops.

Fig.6. From this basic triangle, more complicated patterns can follow. Each triangle is threaded individually but the centre lines are each engaged with yarn twice.



Varnished wood and thin yarn set off a dainty design well; this one consists of four triangles. Plywood coated with polyurethane was used, but the remains of a piece of furniture or stained wood would do equally as well.

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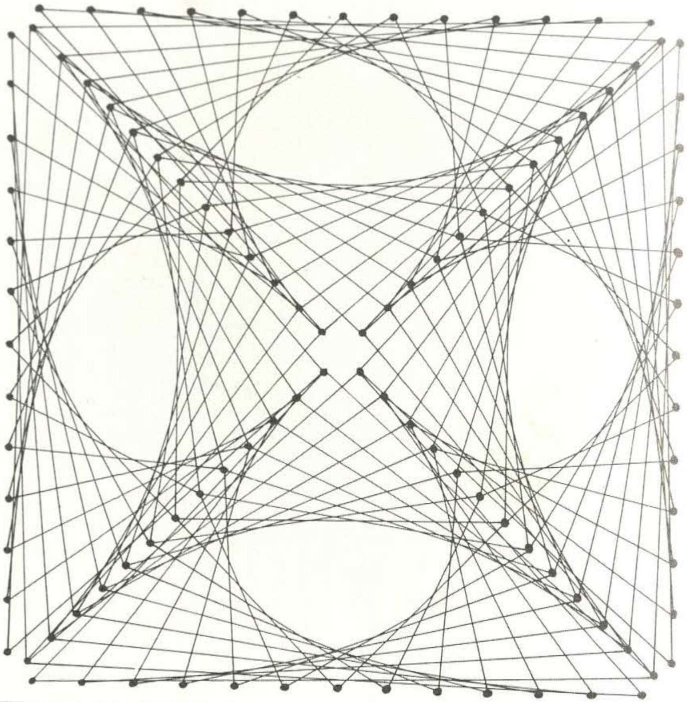


Making your own designs

Working from these basic shapes, you can experiment on paper and make up your own designs. Draw out your patterns full size on graph paper using a dot to represent each nail or pin position. Then join up the dots with pencil lines to obtain an idea of the finished result. This will save hours of practising freehand with a hammer and nails or pins. When you are happy with the design, use the graph paper as a template and place it over the prepared board, securing it at each corner with a drawing pin, then hammer the nails or pins through the paper into the board.

Choosing your materials

Once you understand how the basic curves are made up with pins and yarn you will want to experiment with materials. Each sample has a different backing and yarn—the choice and variation are great. For the best effect, choose a yarn in a contrasting colour to the background, for example white yarn on a black backing can look very dramatic.

In some cases you can complement the subject with the colour of yarn and board used—a ship threaded in silver on a blue background would be representational and effective. Choose colours to go with your room colour scheme or to highlight a wall and for maximum impact hang your pictures together in groups.

For a permanent picture the backing board, either plywood or chipboard, must be at least 12mm ($\frac{1}{2}$") thick. For experimenting use cork or thick cardboard and map or dressmaking pins.

When using plywood or chipboard, use nails that are at least 18mm ($\frac{3}{4}$") long. Panel pins are ideal. Any nail can be used as long as the head isn't too large. The larger the nail, the thicker the yarn should be.

Starting and finishing

To secure the yarn before starting the winding, tie it with a double knot to the first nail. When the winding is complete, tie the yarn to the last nail with a double knot, being careful to keep the yarn taut. Place a tiny dab of clear glue on each knot and allow to dry. This secures the knot. Trim the ends of yarn close to the knots.

Sunburst

This splendid, visually stimulating wall decoration—the more you look at it the more shapes you see—is simply made up of eight triangles.

You will need:

Square piece of plywood or chipboard 12mm (½") thick cut to the required size
624 panel pins
Matt black paint
2 balls of cotton in two colours

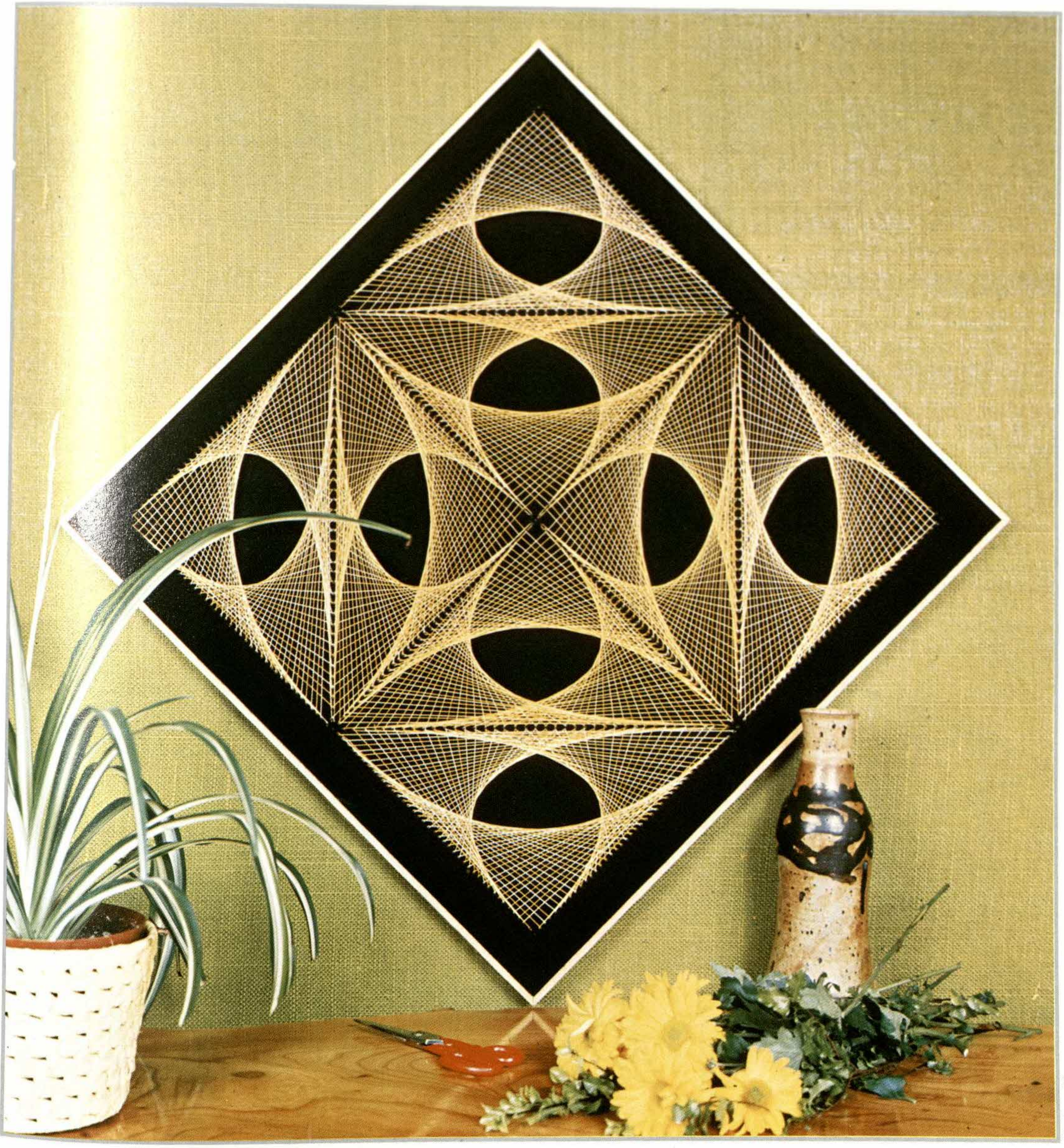
Choose the size of design you require, this one is 50cm (20") square with a 2.5 cm (1") border. On a piece of paper draw the shape, using a dot to represent each nail. It is important that the nails are spaced out evenly. Number each represented nail in each triangle as given in fig.5. Although the design consists of eight right-angled triangles, where the sides of the triangles are duplicated only draw one line. This means that the yarn is wound round the nails twice.

☐ Place the paper on the board. Hammer the nails into position through the paper, keeping the nails the same height. Remove the paper carefully.

☐ Paint the board and the nails. Allow the paint to dry completely.

☐ Thread the four outer triangles first, following the numbers, and tie off. With the new colour yarn thread the remaining four triangles.

If you wish the board may be trimmed with strips of wood to give a neat finish.



This Sunburst picture adds a dramatic quality to any wall. Although the design is only made up of eight triangles, they combine to make more interesting shapes. Designed by Graham Elson.

Graham Elson

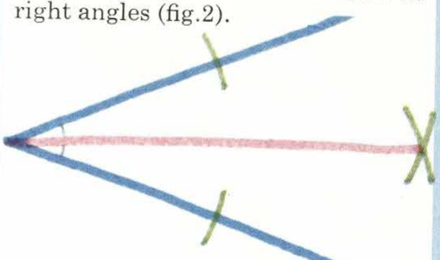
Straight line techniques

Design know-how 6

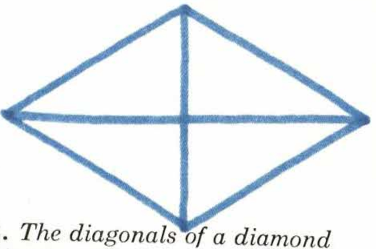
When drawing geometric shapes for designs, or drawing up grids to work with, you will often find that you need to use awkward lengths and angles. You may want to divide a line into an odd number of sections—for example, to divide a line 150mm (10″) long into eleven sections, each of which must be $13\frac{7}{11}$ mm! Or you may want to draw parallel lines or to bisect angles. The following methods will help you overcome these problems.

To bisect an angle

Set your compasses to a convenient span, shorter than the arms of the angle you want to bisect. Put the pin at the angle and make two small arcs to cut the arms. Keeping the same radius, put the pin at each of these points in turn and make two more arcs to intersect (fig.1). Join the point where they intersect to the original angle; this line will bisect it. What you are doing is drawing a diamond and connecting its opposite points. The diagonals of a diamond not only bisect the angles from which they originate, they also bisect each other and cross at right angles (fig.2).



1. *Bisecting an angle.*

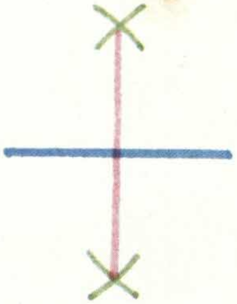


2. *The diagonals of a diamond bisect each other at right angles as well as bisecting each angle.*

Victoria Drew

To bisect a line

Set your compasses (or string and pencil) to a span more than half the length of the line. With the pin at each end of the line in turn, make arcs both above and below the line so that both pairs of arcs intersect (fig.3). The line connecting these intersections will bisect the original line.

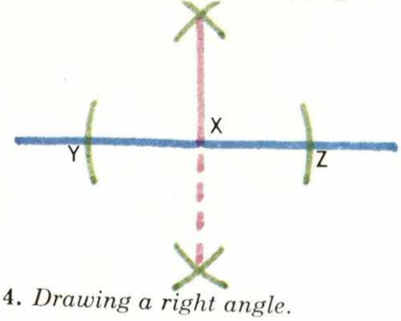


3. *Bisecting a line.*

To draw a right angle

A bisecting line drawn as described above is at right angles to the base line so, by slightly adapting the technique, you can draw right angles. Decide where on a line you want the right angle to be (point X in fig.4). Put the pin of your compass at X and make two small arcs to cut the line at Y and Z. Bisect the line YZ—the bisector will pass through X and be at right angles to the original line.

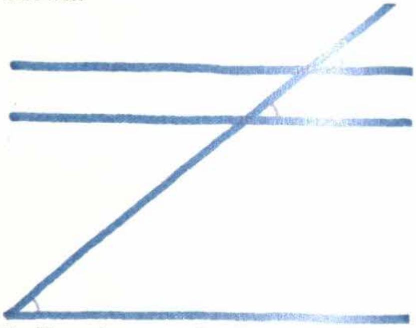
If you want the right angle at the end of the line, you will have to extend the line to use this method. If this is impossible, for example at the end of a piece of fabric or a wall, use the 3:4:5: method described in Design Know-how chapter 1, page 28.



4. *Drawing a right angle.*

Drawing parallel lines

If you have a line and want to draw lines parallel to it draw a line at any angle to the base line (fig.5) and measure this angle with a protractor. At any point on the angled line, measure off the same angle and extend this for a parallel line as shown.

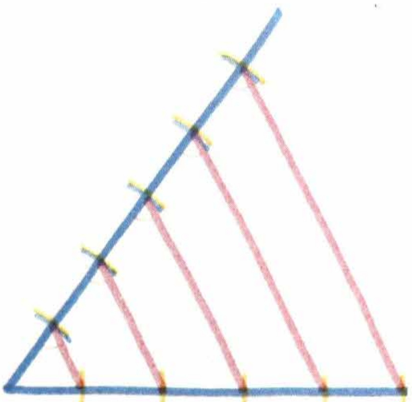


5. *Drawing parallel lines; all the marked angles are equal.*

To divide a line

This method will enable you to divide a line AB into any number of equal sections. Draw a line at any angle from one end of the line you want to divide. Mark off as many equal sections, of any convenient size, along the second line as the number of parts into which you want to divide the first line (fig.6). This can be done by measuring with a ruler or by setting your compasses to a fixed span and then making successive arcs to cut the line, with the pin first at the angle and then, in turn, at the point where each arc cuts the line.

Join up the end of the last section (C) of the angled line to the other end (B) of the first line. Then draw lines parallel to line CB from each of the other marked sections (fig.6), by measuring and duplicating the angle. Where these parallel lines meet the first line will be the points dividing the first line into the number of sections you want.



6. *Where the parallel lines cut the base line they will divide it equally.*

Creative ideas 6

Flexible mirror tiles

Mirror mosaic tiles can be transformed into glittering and practical objects with a minimum of time and equipment. The mirror comes in sheets with a fabric backing. Those used here are 2.5cm (1″) squares and 5cm x 13mm (2″x½″) rectangles.

To make the place mats, simply take the tile and draw the shape you require on the right side. Use a soft crayon or felt-tipped pen to draw the outline so that the marks can be easily removed afterwards.

Take a sharp knife or scalpel and cut along the lines of the squares, following your drawn outline. Trim off any wisps of backing fabric.

To make the tile rigid, cut out a piece of thin cork to the same shape (using the tile as a template) and glue it to the back of the tile with an epoxy resin adhesive. If you wish the tile to remain flexible, simply substitute felt for the cork; apply in the same way. You can use any leftover pieces of mirror in a variety of ways.

To make the matchbox, cut out the sections of mirror mosaic you require and cement them to the cardboard with the adhesive. Conceal the cardboard ends of the box by painting them with silver paint or by gluing a strip of velvet ribbon to any awkward spaces. Remember not to cover up the striking strip on the box.

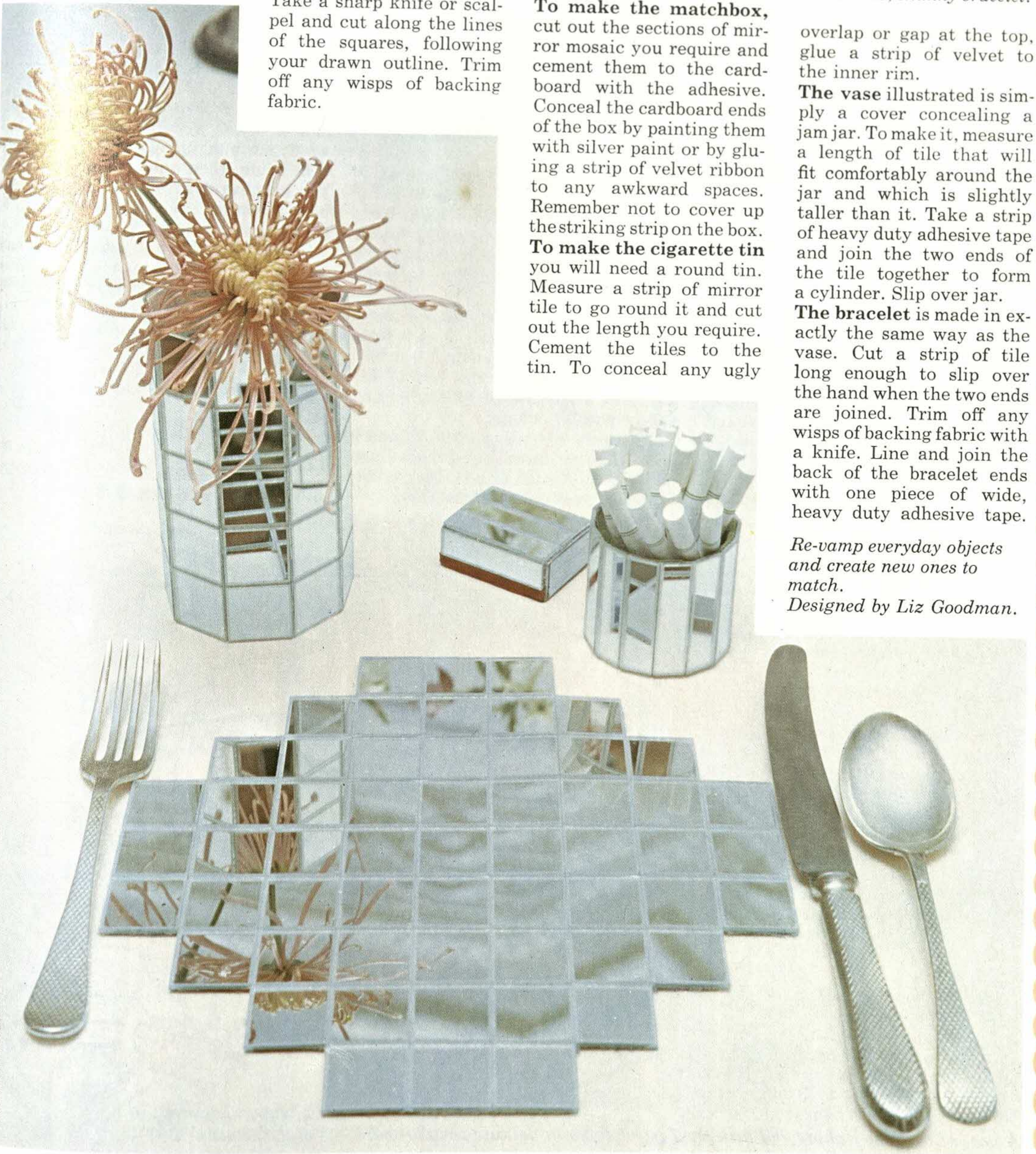
To make the cigarette tin you will need a round tin. Measure a strip of mirror tile to go round it and cut out the length you require. Cement the tiles to the tin. To conceal any ugly overlap or gap at the top, glue a strip of velvet to the inner rim.

Glamorous, chunky bracelet.

The vase illustrated is simply a cover concealing a jam jar. To make it, measure a length of tile that will fit comfortably around the jar and which is slightly taller than it. Take a strip of heavy duty adhesive tape and join the two ends of the tile together to form a cylinder. Slip over jar.

The bracelet is made in exactly the same way as the vase. Cut a strip of tile long enough to slip over the hand when the two ends are joined. Trim off any wisps of backing fabric with a knife. Line and join the back of the bracelet ends with one piece of wide, heavy duty adhesive tape.

Re-vamp everyday objects and create new ones to match.
Designed by Liz Goodman.



Graham Henderson

Realistic paper roses

This chapter shows you how to make lifelike paper roses which are constructed in a similar way to real ones. The petal patterns have been closely copied from nature and each flower is made up of about 26 petals — though a real rose will often have many more!

The flowers illustrated have been made from single crepe paper in order to achieve the most realistic effect. You could also try making them in tissue paper, using the same method but omitting the petal shaping procedure. You will find the results just as pretty.

Old-fashioned roses

These roses have been made in white, with green for the calyx, leaves and stems. They have been lightly tinted with a little oil paint to give them extra, subtle colouring. This is quite simple and if you wish to do the same thing, you must add a few more materials to your shopping list.

You will need:

Single crepe paper in white and green — a fold of each makes several roses.

26cm (10") of 1mm (gauge 18) wire for stem wires.

Florists' wire.

Yellow stamens or sisal string and yellow powder colour.

PVA glue and paper scissors.

Small tube of rose madder oil paint.

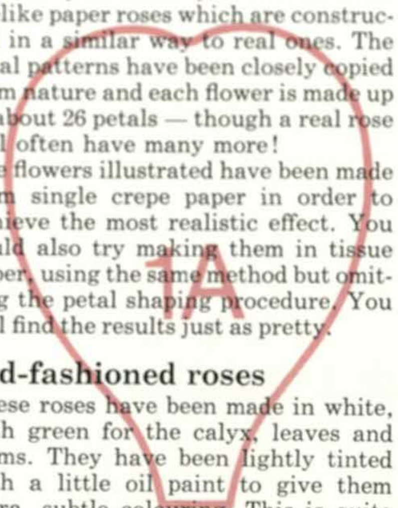
White spirit.

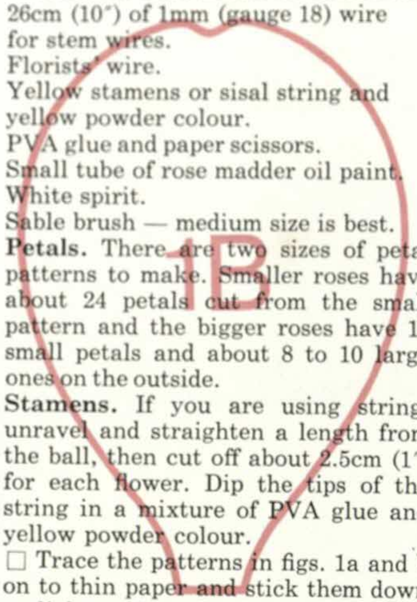
Sable brush — medium size is best.

Petals. There are two sizes of petal patterns to make. Smaller roses have about 24 petals cut from the small pattern and the bigger roses have 16 small petals and about 8 to 10 large ones on the outside.

Stamens. If you are using string, unravel and straighten a length from the ball, then cut off about 2.5cm (1") for each flower. Dip the tips of the string in a mixture of PVA glue and yellow powder colour.

☐ Trace the patterns in figs. 1a and b on to thin paper and stick them down on light card, such as a cereal packet. When dry, cut out and label them.

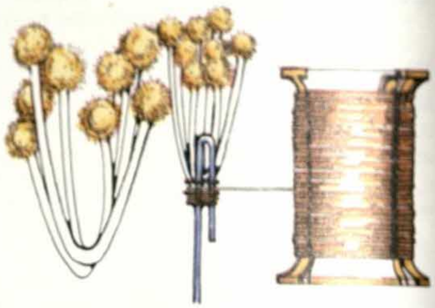




A vase of realistic-looking, old-fashioned paper roses in delicate pastel shades.

Steve Bicknell

☐ Bend over the top of the stem wire for 13mm (½"). Fold a few stamens in half and bind to the stem tightly with florists' wire (fig.2).

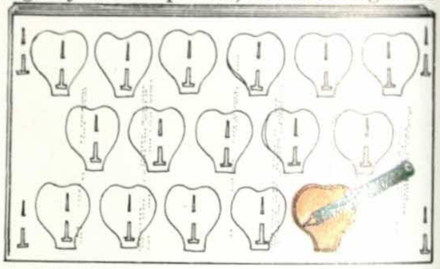


2. *Binding stamens to the stem wire.*

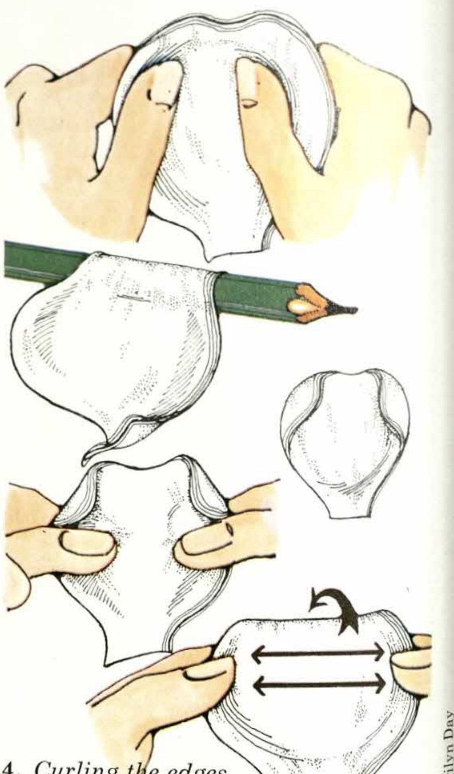
Prepare the petals. First cut the fold of white crepe paper in half. Unwind one half and fold that in half, then again, then once more.

You now have 8 layers which you must hold together by pinning at each corner.

☐ Draw round the petal patterns lightly with a pencil, as close together



3. *Petal patterns pinned to paper.*



4. *Curling the edges of the petals.*

Marilyn Day

A rose carefully copied from nature.

as possible, then pin each drawing in the centre (fig.3). Use tiny pins if you have them. Prepare the quantity you will require for all your flowers and cut them out carefully.

Shape the petals. Take a group and remove the pin. Take 4 petals and shape them all together, as shown in Paper, chapter 4, under general flower making techniques. Cup the centre, curl the edges over a pencil and gently stretch the curls (fig.4).

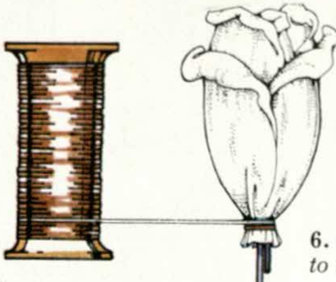
Make enough petals for at least one complete flower.

Fixing petals on to stem. Take 4 prepared petals and separate them. Cup and shape each one a little more. Lay them down in a line so that they overlap and pleat the lower edge as shown (fig.5). When overlapping the four petals in a line, dab a blob of glue at the bottom of each one.

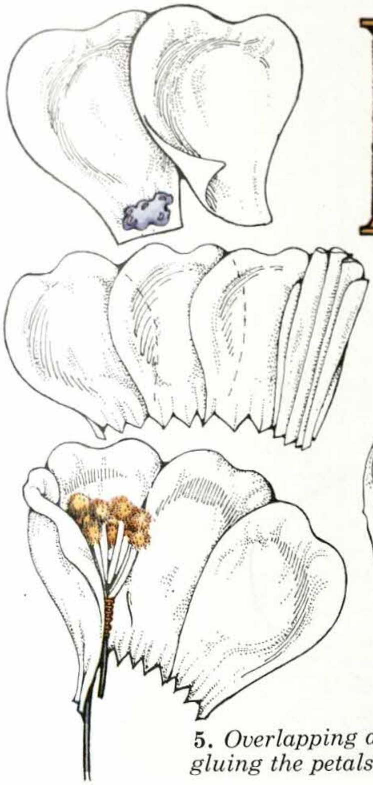
Allow the glue to set a little then pick them up together and wrap them round the stamens and stem wire. Secure with florists' wire (fig.6).

☐ Do the same with 4 more petals, wrapping them round the inside petals in a continuous spiral. Do at least 16 petals in this way (fig.7), spreading the petals further apart as you reach the outside of the flower.

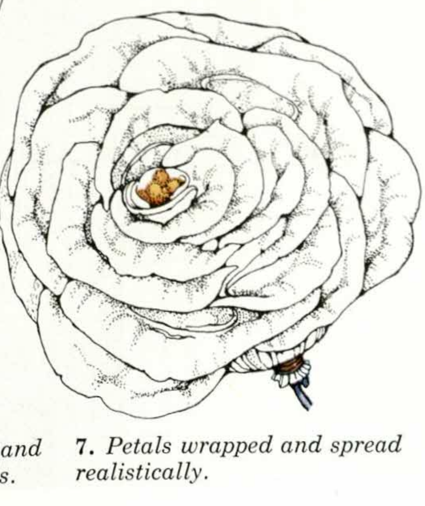
Continue adding petals until satisfied with the shape of your flowers.



6. *Securing petals to stem with wire.*

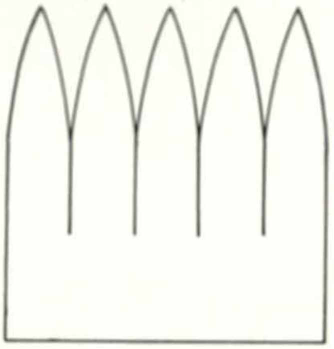


5. *Overlapping and gluing the petals.*



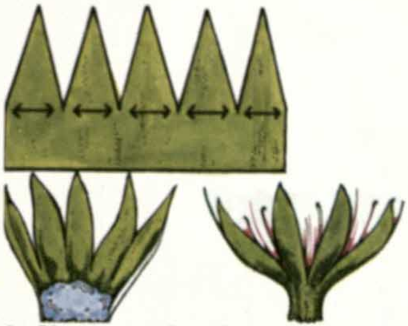
7. *Petals wrapped and spread realistically.*

Calyx, stems and leaves. Trace off the calyx pattern and cut calyx pieces from green paper, cutting one for each rose (fig.8).



8. *Make one calyx for each rose.*

☐ Shape the calyx by stretching across the base of the points and rolling the tips between the fingers. Dab the base with glue and stick round the bottom of the flower (fig. 9).



9. *Shaping and sticking calyx in place.*

☐ Cover the stem wire with narrow green strips of paper as described in the chapter on general flower making techniques. Curve the stem wires.

☐ If you like the effect of a few leaves, add some to the stem, cutting them smaller and more pointed than the petals.

Painting. White spirit must be used as the medium when colouring crepe paper, as water causes it to disintigrate.

☐ Pick up a minute quantity of oil paint with the brush and, working on a tile or pottery saucer, dilute with white spirit. Make sure to mix them very thoroughly, then brush a little on to a spare piece of white crepe paper to test the colour. Add more spirit if it is too dark and more paint if it is too pale.

☐ Paint the flowers all over with the wash. Make the centre of the roses a little darker with stronger colour and add this same dark colour to the tips of the calyx, the stems and leaves.

☐ After painting, place the flowers near an open window to help get rid of the strong smell of the spirit, but don't worry about this as it will disappear in a day or two.

Making your own moulds

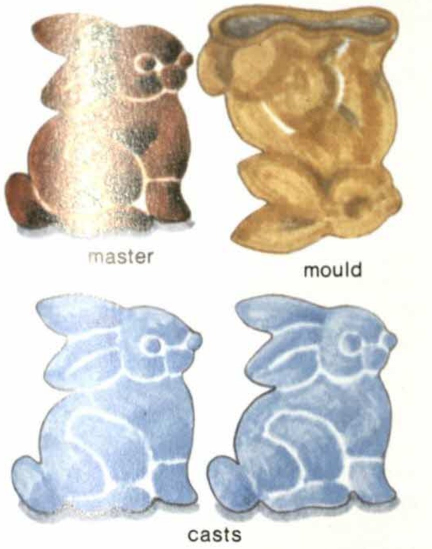
Plastics 3

There are many ways of making moulds and even more ways to vary the shape of them. Moulds can be purely functional or highly decorative and they can be made in a variety of materials. So the mould you choose will depend on what you are using your cast for and the material it is to be made in.

This frame was cast from a re-meltable rubber mould. Supplied by Reeves Ltd.

Steve Bicknell

To make the terms clear, the object to be repeated is called the master; a mould is shaped round the master and the repeat, or replica, made in the mould is called the cast (fig.1).



Joy Simpson

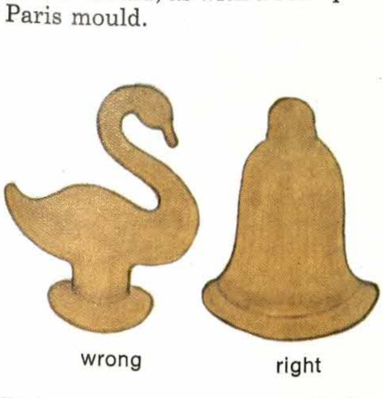
1. *The master is the original from which the mould is taken to make casts.*

Choosing master shapes

Depending on the materials of the mould it can be used for casting wax, resin or plaster. When choosing the shape of the mould thought must be given to the function of the cast. For example, if you are using resin to make a paper-weight you will need a master with at least one flat surface to form the open end of the mould and then the base of the paper-weight. The shape and surface of a mould may be highly suited to one material but make a very uninteresting cast in another.

The first requirement of the mould is that it should be impervious, ie it should hold the casting liquid without leaking.

The second requirement is that you must be able to remove the original. Sometimes this means you will need to break the mould, as with a solid plaster of Paris mould.



2. *If the mould is rigid it must be free of undercuts so you can remove the cast.*

Alisdair Ogilvie

Various moulds suited to resin casts.

If you want to be able to re-use the mould it must either be flexible or made in two or more sections. Failing this you must choose a shape which allows the cast to slip out easily, in which case it must be widest at the open end with no undercuts (fig.2). A rough-textured mould, particularly when there are undercuts or variations in thickness, will not part as willingly with its cast as a perfectly smooth, even-surfaced mould.

Textured moulds may not be suitable for clear-cast resin as you will lose the optical clarity but, if you are using an opaque resin, with or without colour and/or filler, then the textural possibilities are endless.

Moulds can be grouped into three categories: everyday objects, manufactured moulds and home-made moulds.

Using everyday objects

Any items made from a variety of materials such as china, pottery, glass, metal, wood and plastic etc, that have a shape suited to your requirements, can be used as moulds. Even such apparently unlikely objects as pots, eggshells, electric lightbulbs and sweet packets have been used successfully for casting clear resin. However, in these instances, it is necessary to destroy the mould to release the cast. Flexible polythene containers, used for a variety of household products such as washing-up liquid, make excellent moulds and usually have a very suitable surface. However, they may require cutting with a trimming knife to remove unwanted features.

If you do use household objects remember that, if you are casting resin, the mould must be capable of withstanding the heat generated while curing.

Home-made moulds

These are the most interesting to use as you can make moulds from anything you like, making novel and original shapes that you can use for resin, wax or plaster casting.

It is possible to make a mould from any suitable material available but there are also traditional materials used for making moulds.

Clay and modelling materials. Any clay-like material can be used to gain an impression or to shape an original mould. Clay, when fired (glazed or unglazed), is suitable for all kinds of casting. Synthetic and air-drying clays and chemical compounds which dry very hard can also be used as they are unaffected by heat. But modelling materials, such as plasticine, can be affected by heat and are best used with cold-setting materials only.

Found materials. There are a number of materials which can be used to give a mould with an irregular shape. For example you can use tin foil to make candle-holders from clear-cast resin. If you crumple the tin foil and then shape it, the cast made from it will have a rough crystal appearance. Similarly, cellophane paper can be used to embed sweets, to look like the original packet which they were in.

When using either, the master must be dry and free from grease. If possible wash it in soapy water and then dry it thoroughly.

Rubber moulds. Re-meltable rubber and cold rubber preparations are ideal for making moulds.

Individual uses and methods are described here.

Re-meltable rubber can be extremely useful because not only can you use the mould a number of times but you can melt it down and use it to make a new mould of an entirely different shape.

Re-meltable rubber—safety hints

The master you use for making the mould must have a higher melting point than that of the re-meltable rubber or else you will ruin the object. The rubber melts at approximately 120°C (250°F). Wax has a much lower melting point so do not use a wax master in this process. However, you can pour wax into these moulds provided it is not of a higher temperature than the melting point of the rubber. To be on the safe side use a jam-making thermometer when melting wax — you will be able to pour it at around 71°C (160°F). The rubber can be melted over a low heat in an old saucepan. Take care not to let the rubber come to the boil. Do not let it run down the outside of the saucepan as it could catch fire. Once you have poured rubber from the saucepan make sure the outside of the saucepan is clean before you place it back on the stove. You will probably find it easier to spoon the rubber out with a soup ladle or tablespoon.

To make a re-meltable rubber mould

You will need:

A master from which to make the mould.

Re-meltable rubber.

Plasticine or clay to shape the base, if one is required.

An old saucepan.

Tweezers or tongs if dipping or brush if painting.

Dipping method. The easiest way to make a mould is to hold the object with tweezers or tongs and to dip it into the melted rubber. This method is only suitable if the master has an existing base that will give the cast a firm, flat surface to rest on.

☐ Heat the rubber over a low heat in an old saucepan. Take care not to spill any of the rubber and do not overheat it. Once it has melted it is ready for use.

☐ Using tweezers or tongs, grip the object close to the base or around the base and dip it into the rubber.

☐ Swirl it around slightly to release any bubbles that might be trapped around the object.

☐ Remove from the rubber and let it cool for a few minutes.

☐ Dip it into the rubber a second time and remove it. Do not leave it in the rubber too long or the first layer may melt.

☐ Let the second layer cool. The mould should be about 3mm (⅛") thick so, if it appears thin, dip it a third time. If you let the first two coats cool sufficiently the mould should now be strong enough to use. If it still looks flimsy, dip it again.

☐ Leave to cool for a couple of hours so that it is completely set.

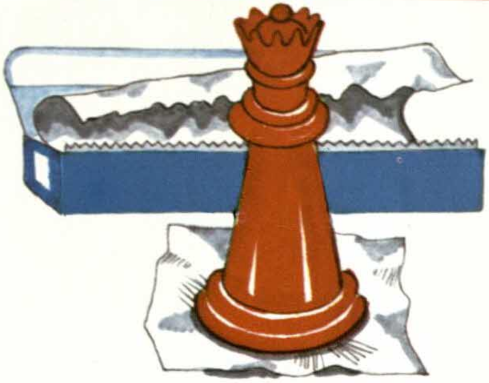
Painting method. If the shape of the master does not lend itself to the dipping technique, then place it on a piece of tin foil and use a brush to paint on the rubber.

Paint into all the little crevices of the object and make sure you get an even coating. Let this coat cool down before applying more rubber. Wash the brush with hot water and soap after each coating otherwise it will be ruined.

If the master is very tall, with steep sides, the rubber will tend to run off it so start from the top and work down. Finish off by giving the top an extra coating.

☐ Once the rubber has set, cut away the rough edges along the bottom of the master with a pair of scissors. Remember that you can melt this down and re-use it later.

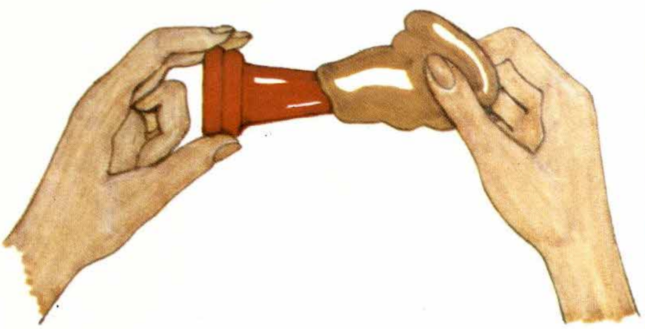
☐ If the master does not have a suitable base for standing the completed cast on then use clay or plasticine to



Place master on a piece of foil.

Melt rubber over a low heat.

Apply rubber with a brush.



Pull the rubber mould from the cast.

shape one. This will also give the necessary 'lip' to support the mould when you are casting.

Making a base. Flatten a piece of clay or plasticine until it is slightly larger than the bottom of the object.

☐ Place the master on the clay and press it into the clay lightly, so that the melted rubber will not seep below the master.

☐ Using the clay or plasticine build up a low wall around the object.

Cold rubber moulds

If the master you want to use for making a mould will not stand up to the heat from melted rubber then you can use a cold latex solution instead. This material cannot be re-melted to make more moulds but you can make any number of casts from one mould.

You will need:

A master from which to make the mould.
Cold latex liquid, with filler.
Brush.

☐ Stand the master on a piece of cardboard slightly larger than the base.

☐ Paint the liquid latex on to the master and paint a small surround on the cardboard. This will form the 'lip' from which the mould is suspended when making a cast.

☐ Brush away all air-bubbles and leave until dry to touch.

Wash the brush in cold water to prevent the bristles from sticking together.

☐ In a mixing bowl, or other container, mix enough filler with the latex rubber to give a creamy consistency. The filler strengthens the mould and helps build up the thickness more quickly.

☐ Paint the mixture on to the master and leave to dry overnight. Place near a radiator or in an airing cupboard to speed up the process.

The mould should now be thick enough to remove. If the master is large, the mould might require another coating with the latex and filler mixture.

Removing the rubber mould

When the mould is completely dry peel back a corner and wash the entire mould in washing-up liquid. Continue peeling back the mould until the original is released.

If you prefer you can shake some talc on to the mould and then peel it back.

Always support the mould when casting to prevent it from stretching and losing its shape.

The mould is removed from the master and the cast in the same way.

Roger Phillips

The frogs and the owl were cast using moulds made from re-meltable rubber. The casts are suitable for outdoor use. Supplied by Supercast Ltd.

Macramé made easy

Yarn — macramé 1

Macramé is essentially a free form craft because, once you have learnt a few basic knots, you will be able to experiment and build up your own designs. However, if you are trying new combinations of knots, be methodical and make sure that the pattern is balanced. In this chapter two knots and some of their variations are used to make two attractive, but totally different, hanging baskets.

Macramé can be worked in yarns of many different thicknesses, but parcel string is easy and economical to begin with. Synthetic string, rayon, cotton, silk, knitting and rug yarn, heavy string or thin rope—for really big projects — are all ideal. The yarn that you use for macramé often suggests what it should be used for: thick yarn which makes up into a chunky fabric is suitable for using around the home as pelmets, room dividers, lampshades, wall hangings, rugs and place mats; medium-weight yarns can be used for handbags, shopping bags, hammocks, luggage racks, cot covers, table mats, lampshades, chair backs and seats for folding chairs, and as seats for deckchairs; fine yarn makes lovely trimmings for dresses and blouses. Macrame can be worked straight on to open weave material—and is suitable for tablecloths, small lampshades and for covering plain-coloured cushions.

Knotted hanging baskets

Made in 20 minutes these baskets are plain and simple, to set off an attractive plant to best advantage. The hanging basket can be made for a pot of any size.

You will need:
Twine; plant pot.

☐ Measure from the centre of the base of the pot to the height from which you intend to hang the pot, then add about 30cm (12″) to be sure of having enough yarn. Double this length — ie if the measurement from centre of base of pot to hanging point is 75cm (30″), add the 30cm (12″), multiply by two and the total length of yarn will be 210cm (84″).

For medium-weight yarn cut 5 lengths and for rope cut 4 lengths.

☐ Place all the lengths together, fold the bundle in half and make an overhand knot about 10cm (4″) from the fold (fig.A).

☐ To make the basket fit the pot, you have to actually work around it. So work where the pot will be safe, possibly by sitting on a thickly carpeted floor if it is an expensive pot.

☐ Place the knot in the centre of the base of the pot. Make an overhand knot (fig.A) with two of the strands at the edge of the pot; if there is no edge, make the knot 7cm (3″) from the large knot. Repeat with the remaining strands (fig.B).

☐ Arrange the knots so that they are equal distances from each other around the edge of the base.

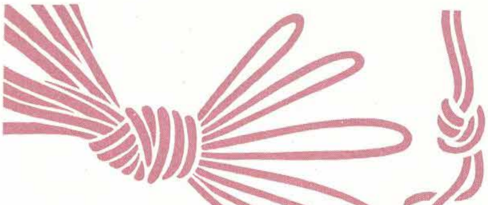
☐ Hold two of the knots in place and, using a strand from each pair of strands, pinch them together (fig.C). This gives the position of the next row of knots. Remove the pot from the basket. Make an overhand knot where your fingers pinch the strands. Split the other pairs of strands and make overhand knots at the same distance along the length of the strands (fig.D).

☐ Return the pot to the basket and repeat the pinching, taking two strands, one from each pair of neighbouring strands. Remove the pot and tie an overhand knot where your fingers pinch the strands. Split the other pairs and knot them at the same distance along the strands (fig.E).

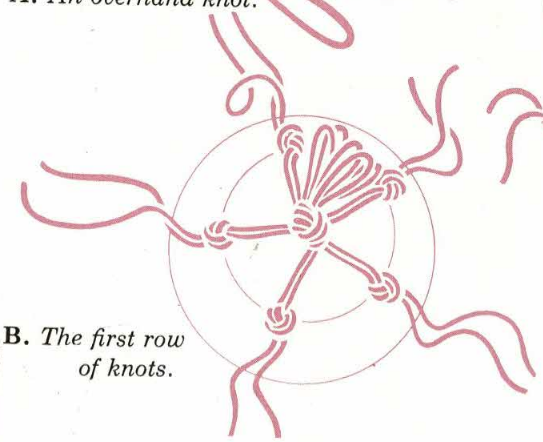
☐ Lay the basket around the outside of the pot and measure to the top of the pot with a strand from each pair of strands. Remove pot from basket and make an overhand knot which should come just above the rim. Repeat with the other strands. Return the pot to the basket and check the position of all knots.

☐ Using all the strands, tie an overhand knot near the ends as shown. Trim the ends (fig.E).

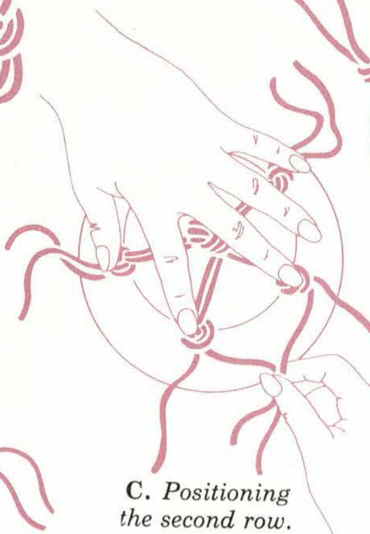
The basket is now ready to hang.



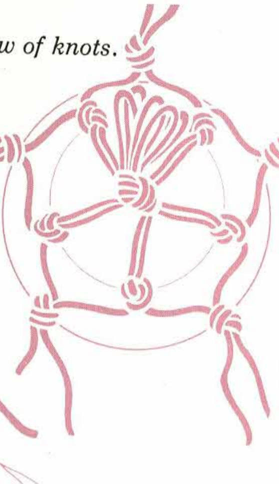
A. *An overhand knot.*



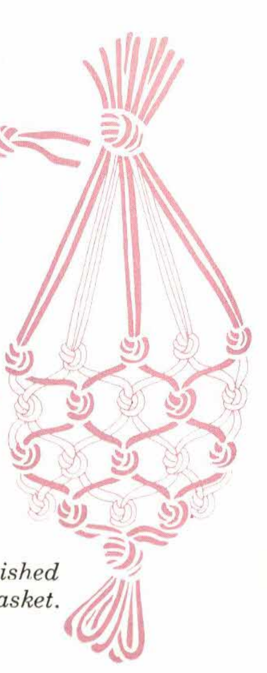
B. *The first row of knots.*



C. *Positioning the second row.*



D. *The second row of knots.*



E. *The finished basket.*

Victoria Drew

These simple knotted baskets may be decorated with beads.

Martin Chaffer

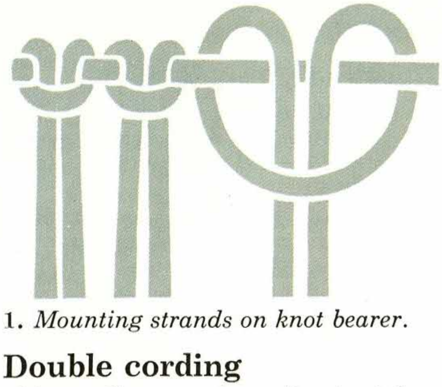
Quantities

The quantity of yarn required for making an article is difficult to judge accurately. A complex design obviously takes up more yarn than a simple one and thick yarn is used quicker than thin yarn. An approximate guide is 5 to 8 times the length of the finished article for each strand, depending on the type of design.

To mount the strands

Macramé needs a foundation on which it can be worked. This can be made from a dowel, a length of yarn or, if you are working in a circle, a curtain ring. Anything which is used for mounting the knots is called a knot bearer.

Fold each strand in half and attach to the knot bearer as shown (fig.1). These lengths of yarn are called knotting strands. When making any knot, pull it tight so that it feels firm but is not distorted.

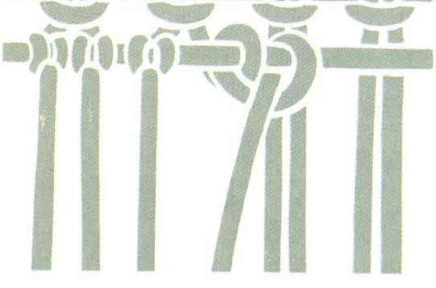


1. *Mounting strands on knot bearer.*

Double cording

This cording can immediately follow the knotting strands or it may be used as part of a pattern. The cording has to be knotted around a knot bearer, which may be an additional dowel, piece of yarn, larger curtain ring or, if the cording is to form part of a pattern, one of the knotting strands is used as the knot bearer.

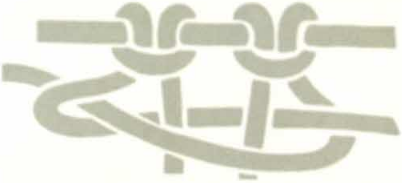
Cording is done by knotting from left to right. Bring each single strand up in turn and wrap it round the knot bearer from front to back twice, threading the end between the two loops as shown (fig.2).



2. *Double cording knots.*

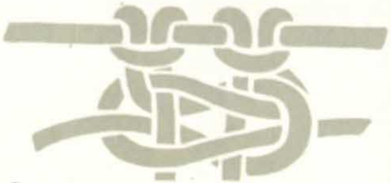
Flat knots

Before making flat knots, the number of knotting strands must be in multiples of 4. Divide the pairs of strands into groups of 2. Pick up the left strand and make a loop, with the end passing under the centre 2 strands. Make a loop with the right strand and pass it under the end of the left strand, over the centre 2 strands and through the left loop (fig.3). Pull the ends to form a firm knot.



3. *The first stage of the flat knot.*

To complete the flat knot, make a loop with the right strand with the end passing under the 2 centre strands. Make a loop with the left strand and pass it under the end of the right strand, over the 2 centre strands and through the right loop (fig.4). Pull the ends to form a firm knot. You have completed one flat knot.



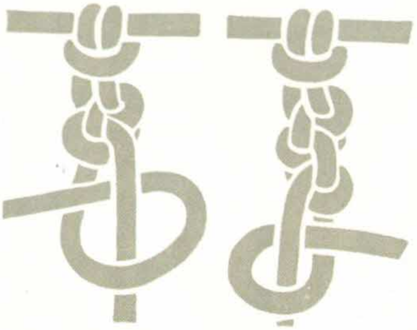
4. *Completing the flat knot.*

Continue in this way using first the left strand to make a loop and then the right strand.

To form a spiral with flat knots always use the same strand, either the outer left or outer right one, to make the loop.

Knotted chain

Using 2 strands, bring the left one over the right and then thread it through the loop made by the 2 strands. Bring the right strand over the left and then thread it through the loop made by the 2 strands (fig.5).

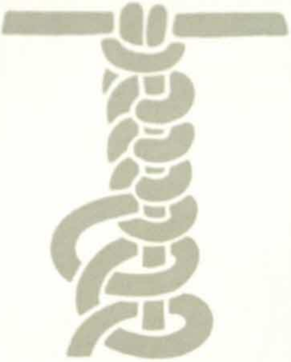


5. *A knotted chain.*

One knotted chain has been made. Continue knotting with the left and then the right strands.

Single cording

This can be used to cover one or, when used for finishing or if a heavy cord is required, numerous strands (fig.6).



6. *Single cording over one strand.*

Single cording worked over more than 2.5cm (1″) makes an attractive spiral.

Joining

Often when making knots, like chains of flat knots, the outer strands are used up more quickly than the centre ones and so either a knot can be introduced which uses only two strands or more strands can be added. Strands can be added at any time while making the fabric either to make a more complex design, to increase the size of the article or to replenish strands which have been used up.

To join new strands, overlap the ends of the old and new strands by 5cm (2″) and make 2 or 3 knots using both strands. Trim the ends close to the knots and continue knotting with the new strand. If possible, stagger the joining of the strands so that two are not joined in the same chain at the same time.

Hanging plant basket

To make a hanging basket 57cm (23″) long and 10cm (4″) diameter, to take a flower pot 12cm (5″) in diameter.

You will need:

18 strands of No.2 unfinished cotton string, cut into 3.5m (10′) lengths, and a piece 28cm (11″) long.
6cm (2½″) diameter curtain ring.
Clear glue.

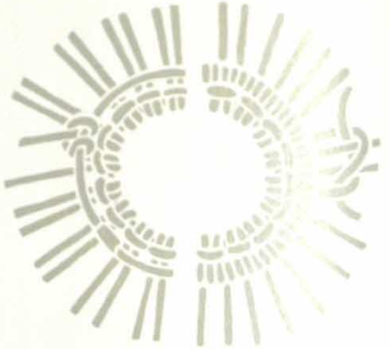
☐ Mount the string on the curtain ring.

☐ Overlap the ends of the 28cm (11″) length of string by 2cm (¾″) and secure them with sticky tape.

☐ Hold the ring between your knees or tie it to an immovable object. Loop the circle of string over the ring and place it just below the knotting strands.

1st row. Make a row of cording over the string knot bearer (fig.7).

2nd row. Arrange the pairs of strands into groups containing 4 strands (fig.7). Make a chain of 4 flat knots with each group.



7. *Cording over string knot bearer.*

3rd row. Take the 2 right strands from one group and the 2 left strands from the adjacent group and make a chain of 4 flat knots with these strands. Regroup the remaining strands and make 4 flat knots with each group.

4th row. Regroup the strands again and make 4 flat knots with each group.

☐ Hold 2 chains of flat knots together and, using all 8 strands, make 2 flat knots using 2 strands to make the loops and working over 4 centre strands.

☐ Miss the next chain of flat knots and work 2 large flat knots with the next pair of flat knot chains. Make a total of 3 pairs of flat knots with 3 single flat knot chains between them.

☐ Working on the double flat knot chains divide each into the original groups of 4 strands and make 4 flat knots. Then, using the centre 2 strands make a knotted chain (fig.5). Still working on the same strands, make an overhand knot 10cm (4″) from each end. Knot the other strands at the same level and comb the ends to make a fringe.

☐ With the remaining 3 single flat knot chains, make the handle.

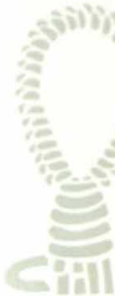
To make a handle leave about 27cm (11″) of unworked string. Make 4 flat knots with each group.

Using sticky tape bind all strands together for 5cm (2″) immediately above the flat knots. Trim away all but 3 of the longest strands just above the sticky tape.

☐ Use one of these strands to bind the other 2 strands with single cording (fig.6) for a length of 13cm (5″) from the end of the sticky tape to make the handle. Loop the corded strand and tape the ends of the two shortest ones to the taped section.

☐ Using the remaining strand make a single cording knot and then wind it round and round (fig.8) until all the sticky tape is covered.

☐ Make a single cording knot to secure the strand and trim, leaving a 2.5cm (1″) end. Dab a little glue on



8. *Completing the handle.*

the end and, using a hairpin, push the end inside the sticky tape.

A handle can be made in this way with any number of strands as the core.

As soon as the glue has hardened, the basket is ready to take the flower pot.

Hanging fruit basket

For a hanging basket 1m (3′) long and 25cm (10″) in diameter, to hold a 27cm (11″) bowl or basket up to 12cm (5″) deep. To adjust size add or subtract two extra strands.

You will need:

1 ball of parcel or gardening twine.
32 white rotelle beads.
18mm (¾″) curtain ring.
Clear glue.

☐ Cut the twine into 8 strands, each 3.5m (11′) long.

☐ Mount the yarn on the ring (fig. 1).

☐ Hold the ring between your knees or tie it to an immovable object.

1st row. Arrange the pairs of strands into groups containing 4 strands. Make 6 flat knots with each group (figs. 3 and 4).

2nd row. Take the 2 right strands from one group and the 2 left strands from the neighbouring group and make one flat knot 5cm (2″) away from the chain of flat knots. Regroup the remaining strands and make one flat knot with them 5cm (2″) from the flat knot chains.

3rd row. Regroup the strands and make one flat knot 7cm (3″) from the second row.

4th row. Regroup the strands again and make 2 flat knots 10cm (4″) from the third row.

5th row. Regroup the strands again and make 2 flat knots 10cm (4″) from the fourth row.

☐ Thread a bead over the centre 2 strands of each group of flat knots. If you find this difficult, wrap sticky tape over the ends of the twine so that they do not fray.

☐ Make half a flat knot and thread another bead on to the centre strands.

☐ Make 2 flat knots with each group.

☐ Make a spiral using flat knots, 17cm (7″) in length, or until the strands with which you are working are about 2.5cm (1″) long. Using one of the long centre strands cover the other long strand and the short ends with single cording (fig.6) for about 10cm (4″). Repeat with all other strands.

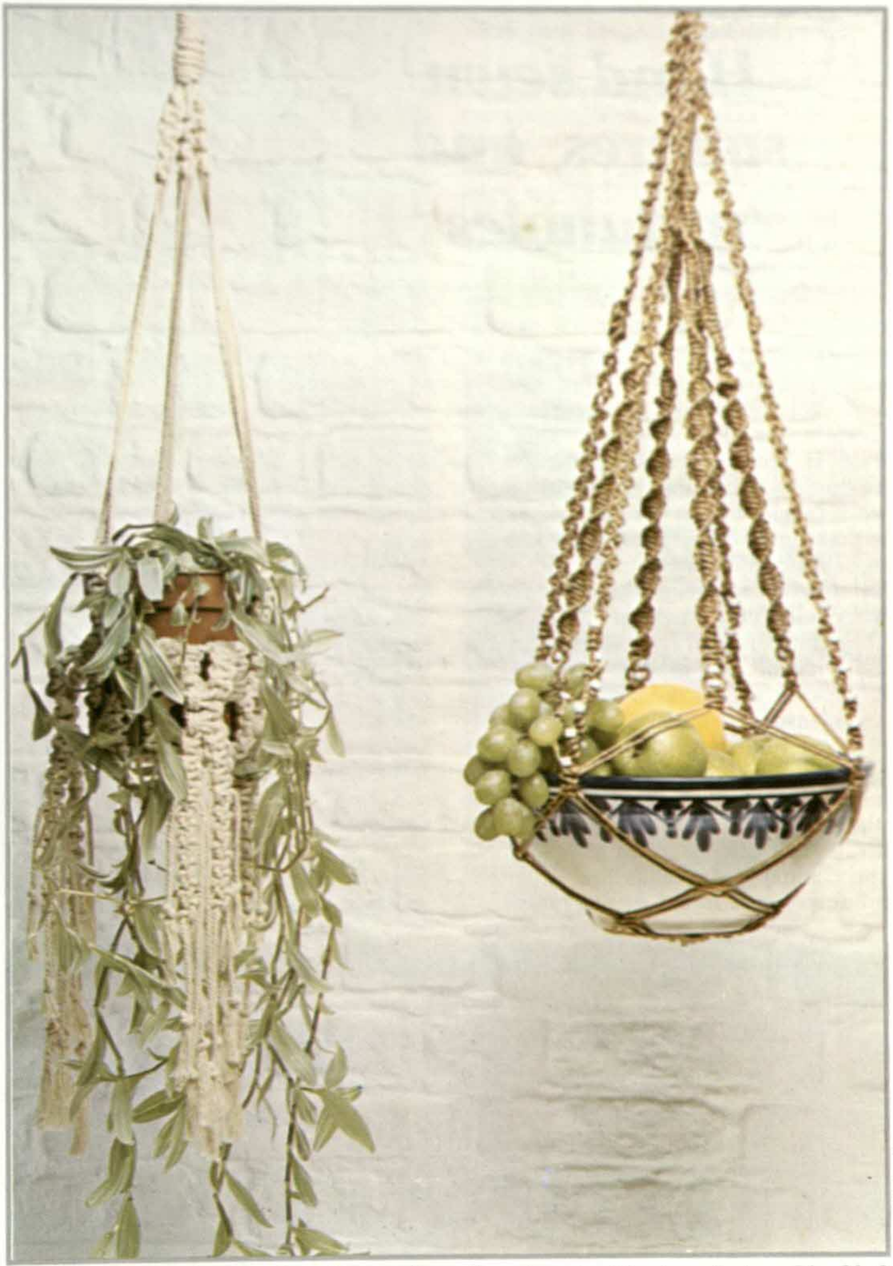
☐ Cut 4 more strands of twine each 1.5m (5′) long.

☐ Mount each strand on the top loop of the fourth row of flat knots.

☐ Thread a bead on to one of the strands. Make 3 single cording knots using the same strand. Thread another bead on to the other strand and make 3 single cording knots with this strand. Do this 3 more times using each strand alternately. Finish with a bead. Repeat with the other extra strands.

☐ Make a knotted chain (fig.5) with each pair of strands, 37cm (15″) long or until they are almost used up.

☐ Hold all the strands together that you used for making the spirals and allow the knotted chains to hang down out of the way.



Steve Bicknell

Hanging plant basket, designed by Shelley Churchman, and fruit basket both save space and look attractive.

☐ Take one of the long strands that you are holding and cover all the strands for 10cm (4″) with single cording, pulling the knots very firmly.

☐ Return to the knotted chains and hold them so that they are positioned between the spirals and held just above the single cording. Using the same strand with which you were making the single cording, make single cording knots over all the ends and catch in the last knots of the knotted chains.

☐ Make single cording knots until the ends of the knotted chains are covered, trimming them to 5cm (2″) lengths if some are exceptionally long.

☐ Make a handle in same way as for hanging plant basket.

Hand sewn squares and rectangles

Cloth — patchwork 2

Patchwork chapter 1 showed how to make patchwork fabric from squares and rectangles joined together with straight machine stitching. This method is both quick and effective in producing bright and colourful patchwork fabrics and is particularly suited to making patchwork fabrics which are to be used in dressmaking.

Even today, however, the art of patchwork relies very much on the traditional method of hand sewing, and for the majority of people who want to do patchwork this is the most convenient and pleasurable method. It is extremely relaxing and its great advantages are that you can pick it up at any time, work a few patches or do a little planning, and, like knitting, you can do it while sitting in an easy chair in the company of friends and still take an active part in the conversation.

Hand sewn patchwork is within the scope of anyone who can oversew, hem and tack neatly, so why not experiment with a piece of hand sewn patchwork made from squares and rectangles and see just how relaxing and rewarding it can be.

Equipment

The stitches in a patchwork must be fine and close together and a needle size 9 or 10 is best. For sewing the patches you will need a fine thread in a colour which blends with the patchwork.

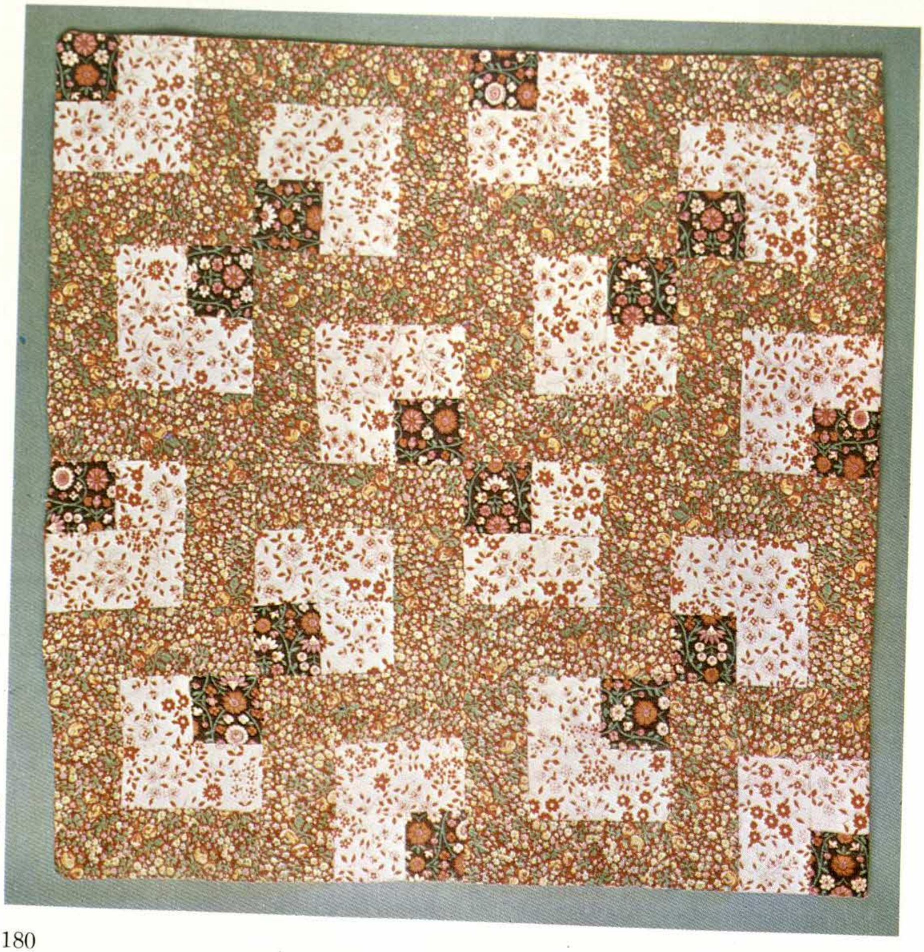
Use fine pins for the patchwork. Dressmakers' pins will do, but tiny pins like 'lillikins' or 'lills' are better because they do not get in the way and are less likely to damage fine fabrics.

You will also need two pairs of scissors —one very sharp pair for cutting the patches and another for paper cutting as paper will quickly blunt a sharp pair of scissors.

Paper. The patches in hand sewn patchwork are generally constructed over paper shapes which are cut from templates. The papers ensure that the patches are exact and hold them firm—a help when joining them together. The paper from a glossy magazine is the ideal weight. Standard weight notepaper will also do as it is firm enough for the edges to be felt within the folds when the edges of the patches are turned. Paper which is too thick will make the work heavy and difficult to handle although it is necessary for heavier materials.

Non-woven interfacing, such as Vilene or Pellon, can be used as an alternative to paper and is left in when the work is finished to add firmness.

Templates are the patterns for the papers and patches, and metal and plastic templates can be bought from craft shops. As the square and rectangle are very simple shapes you can easily make your own from cardboard. They must be accurate, however, or the patches will not fit together properly.



This patchwork cushion cover is made from squares and rectangles arranged in a regular, geometric pattern. Designed by Heather Mingay.

Steve Bicknell

Camera Press

A gorgeous patchwork evening skirt made from squares of printed velvet.

To make the template for the papers draw the exact area of the patch, without allowances for turnings, on to a piece of cardboard with a ruler and sharp pencil, then cut out the shape. For the patch template draw a larger replica of this same shape, allowing 6mm-9mm (¼"-⅜") all round for the seam allowance and cut out this shape.

Cardboard can wear quickly so you will need to keep checking the templates for accuracy.

Fabrics

As hand sewn patchwork is likely to take some time to make it is worth checking that you have enough patchwork pieces to complete a design before beginning the work — it may not be easy to come by a similar piece of fabric later on.

Because of the time and patience involved in making hand sewn patchwork the item produced may be of some sentimental value and you may wish to mix different fabrics in it which are of personal significance. It is possible to mix fabrics in a patchwork but, as the stronger fabrics will tend to pull out the weaker ones, it is better to confine these mixtures to items which will not receive hard wear.

Making patchwork

Size. With hand sewn patchwork it is a good idea to consider the size of the patch in relation to the work involved, using larger patches for big items such as quilts. Squares about 6cm-10cm (2½"-4") are suitable for large pieces, 4cm-6cm (1½"-2½") for medium pieces and 2.5cm-4cm (1"-1½") for small pieces.

Method A. Cut out the papers two at a time by holding the smaller template firmly in position on a double thickness of paper. Keep the scissor blades close to the template for accuracy whilst cutting. Alternatively you can cut them out with a scapel, cutting through several layers of paper at once.

Cut the patches singly by placing the larger template on the wrong side of the fabric, along the straight of grain. Pin the paper shape to the centre of the wrong side of the patch. Fold over the turnings all round, folding the corners neatly, and tack down. To tack first knot the thread. Start tacking in the middle of one side, work round the patch and finish off with an extra stitch over the first one as shown (fig. 1a). When turning the corners feel the fold edges to make sure the material fits the paper lining exactly.

Silks and some cottons can be permanently marked by pins and needles. On these fabrics it is best to stick down the seam allowance with masking tape and to sew the corners through the seam allowances only (fig.1b).

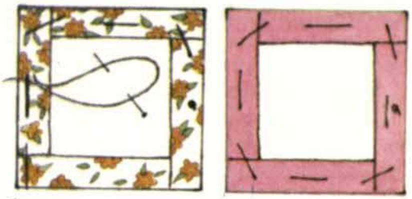
To join the patches take two, and with rights sides together begin the oversewing. Start about 6mm (¼") in from the corner, make one stitch, take the thread to the corner then oversew with small, even stitches along the whole edge, taking in the thread and the first stitch (fig.2). The stitches should be even and at right angles to the join. Take up two or three threads only from each fold into every stitch and do not take in the paper inside. To finish the seam sew back for three or four stitches, then cut the thread.

When you have completed the join flatten the seam and carry on sewing the other patches together by making up groups or units, then join these together. Repeat the process until the required area is completed.

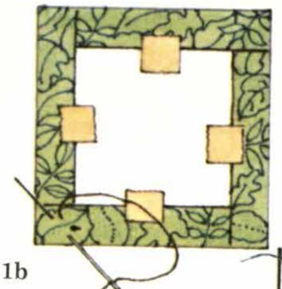
When all the patches are sewn together, press the patchwork on the wrong side with a warm iron. If the front of the work needs pressing too, remove the tacking but leave in the papers to prevent the seams from making a mark.

Finally, when you are ready to line the work, remove all the papers. You may be able to use these several times if they are undamaged.

Method B. Square and rectangular patches can be joined, without papers,



1a



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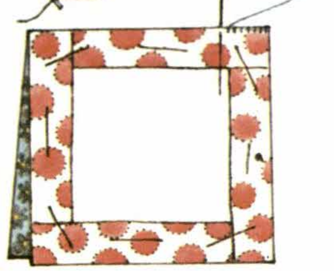


2

Gwen Simpson

1a. *Tacking the patch to the paper.*
1b. *On fine fabrics stick edges to paper with masking tape and tack corners through seam allowance only.*
2. *Oversewing patches together.*

in the same way as machine patchwork. Cut the patches then take two and, with right sides facing, join them carefully with a small running stitch (fig. 3). Join the patches into strips, making sure that the seams are all the same width. Press the seam allowances to one side and join the strips together. Do not press the seams open as with oversewing or machine stitching as this will put too much strain on the running stitch.

Method C. As in the previous method, papers are unnecessary. Cut the patches, then make a 6mm-9mm (¼″-⅜″) turning all round and tack. Oversew the patches together as described earlier. In both methods B and C the turnings taken must be exact to ensure that the squares fit together.

Lining and interlining

Patchwork, unless it is to be used for appliqué, should always be lined. If the piece of patchwork is to be made into a bedcover it is advisable to place a piece of interlining between the patchwork and the lining.

Lining. Use a firmly-woven cotton or other lining material. If edges are not bound with lining the work can be bagged. Trim the lining to 6mm-9mm (¼″-⅜″) (the width of the patchwork turnings) larger all round than the patchwork. Unfold the turning on the edges of the patchwork. Place the lining and patchwork with right sides together, tack round three sides and part of the fourth, the width of the patch turning from the edge. Machine or hand sew along the line of tacking. Clip the corners, then turn the 'bag' right side out. Slip stitch the opening. Make a line of neat running stitches all round the 'bag', 3mm (⅛″) from the edge, to hold the edges firm. If the patchwork is fairly large, knot it to the lining at regular intervals, placing each knot in the centre of a patch.

Alternatively the lining and patchwork can be knotted together as for interlined patchwork and the edges finished as mentioned below.

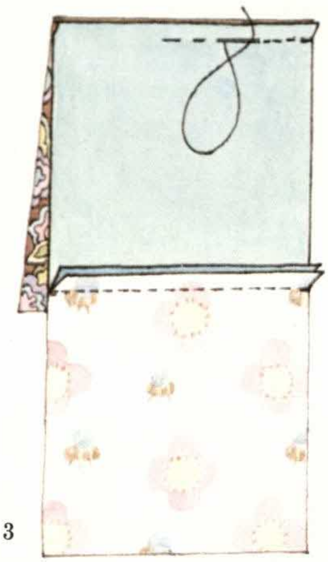
Interlining. Synthetic wadding is ideal for interlining patchwork items as it is washable, quick-drying and available in a variety of weights. It is possible to use flannelette as interlining but this is not quick-drying and gives a flatter result than synthetic wadding.

Lay a piece of lining fabric, 5cm (2″) larger all round than the patchwork, wrong side up on a large flat surface. Place the wadding on top and then the patchwork, right side up, on top of that.

Tack the three layers together with regular parallel lines of tacking stitches worked from side to side and from top to bottom. It is important that all the lines of tacking, which are parallel to each other, are worked in the same direction (fig.4). This avoids wrinkles. Work knots as shown (fig.5) through all thicknesses at regular intervals across the whole piece of work (fig.6). The knots should be made on the lining side in the centre of every 4th patch, when small patches are used, and every 3rd patch, when larger patches are used. Trim lining 6mm–9mm (¼″–⅜″) larger all round than the patchwork, unless the edges are bound with lining. Remove tacking.

The edges can be finished off in one of the ways mentioned below.

Alternative finishes for edges. The interlined or lined work can be finished with piping, bound with bias strips or mitred in the way described for the child's quilt at the end of this chapter. Or, trim interlining, if used, to 3mm (⅛″) less all round than the finished size of work. Turn in 6mm-9mm (¼″-⅜″) all round the edge of the lining and press the turnings carefully. Oversew the lining to the patchwork with small stitches.



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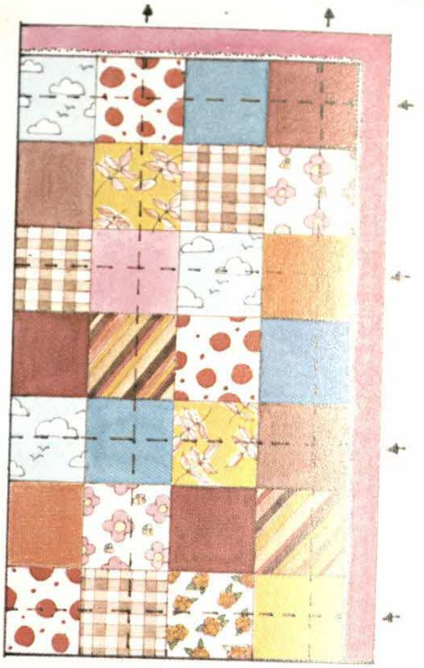

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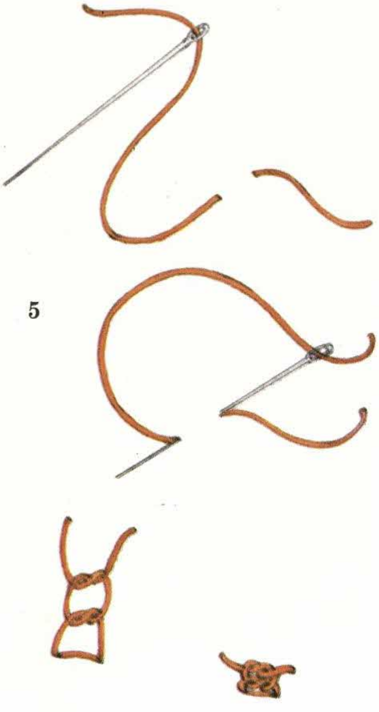
3. Sewing rectangles together with a running stitch.
4. Tacking lining, interlining and patchwork together.



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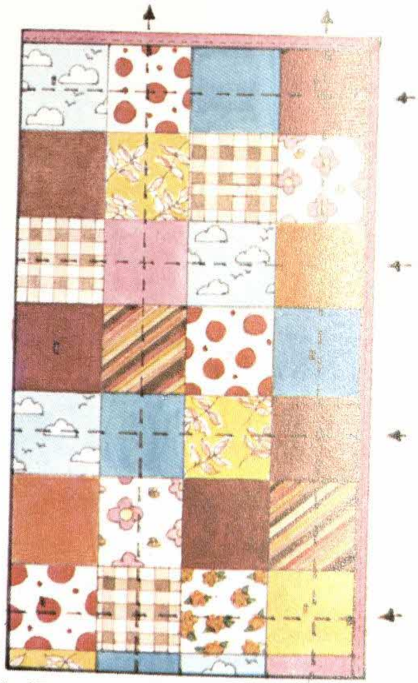


6

5. Knotting layers of lining, interlining and patchwork together.
6. The patchwork has been knotted in the centre of every third square.

Baby's quilt made up of hand sewn squares.

Camera Press

Making paper patterns

To make up clothes from hand sewn patchwork choose a simple pattern, then draw the pattern of the patches on to it. Use a felt tip pen to avoid tearing the paper. Make sure that the shapes will fit together well at the seams, allowing for turnings. Note the colour scheme if you are using a specific design.

Make a duplicate pattern of the garment on stiff paper, marking both shapes and colour. Cut out these 'stiff' shapes and use them as papers for the patches. The original pattern can be used as a guide for stitching the patches together in the right sequence. Cut a lining from the original paper pattern and make up the garment in the usual way.

To make a child's quilt

The gaily patterned quilt shown in the photograph is 75cm x 100cm (30″x40″) and is made from 5cm (2″) hand sewn patchwork squares of cotton fabric joined together in a random pattern. It is lined with gingham cotton which also forms a narrow border round the edge. The same material is also used for some of the squares.

You will need:

300 fabric patches of similar weight measuring 5cm sq (2″sq) plus seam allowance all round.

Light-weight synthetic wadding 80cm x 105 cm (32″ x 42″).

1.2m (1⅜yd) gingham for the lining. 90cm (36″) wide (this allows enough fabric for the lining and some patches).

☐ Make up the patchwork with 20 rows of 15 squares. Press on wrong side.

☐ Remove both tackings and papers.

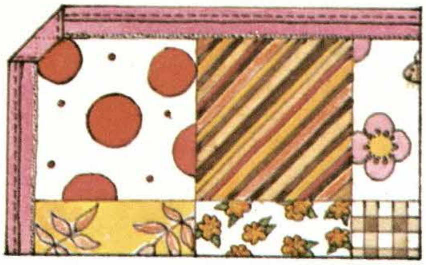
☐ Cut a rectangle 85cm x 110cm (34″ x 44″) from the gingham lining fabric. Place the gingham, wrong side up, on a flat surface.

☐ Place the interfacing and then the patchwork, right side up, centrally on to the gingham. Tack the three layers together and knot in the way described earlier in this chapter.

Finishing the edges. Trim wadding to the exact size of the patchwork.

☐ Trim the gingham to 2.5cm (1″) larger all round than the patchwork. Turn in gingham edges 6mm (¼″) all round. Tack and press edges.

To mitre the corners. First turn down the corners of the gingham diagonally over the right side of the patchwork (fig.7). Trim off about 9mm (⅜″) across this corner.

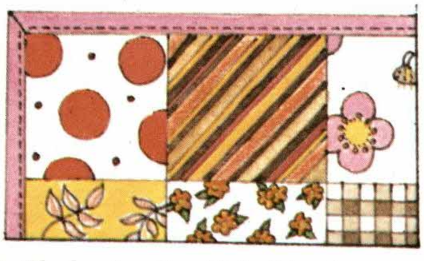


7. *Folding and trimming the border corner for mitring.*

Fold down the surrounding gingham edges on to the right side of the patchwork, making a neat mitre at each corner (fig.8). Tack edges in place.

☐ Slip stitch the mitre and slip stitch or machine stitch the edges.

☐ Remove all tacking.



8. *The border slip stitched in place on the right side.*

Restoring wood finishes

Wood — renovation 1

Old furniture can be found in all sorts of places, often in basically sound condition. Look round junk shops which often hide bargains as well as completely wrecked pieces: or take another look in the attic and see if you have an old table or chest that was stored away when it lost the bloom of youth. If the damage was to the surface rather than the structure of the piece, why not try restoring it?

There are lots of old—but not antique or particularly valuable—pieces of furniture available. They may have been scratched or scorched by a cigarette or they may have water marks; but it's marvellous how well they come up with a little work and at a very small cost. Try restoring a small, unimportant piece, perhaps an old sidetable and then see if you can give a new lease of life to what looked like an old piece bound for the scrapyard.

This chapter deals with repairs to finishes on wooden furniture: some pieces may be in such bad shape that nothing short of stripping and complete re-finishing will do — this is dealt with in a later chapter. It is worth remembering, when wondering whether to mend or start anew, that patina, the deep surface finish built up over years of loving care and polishing, cannot be replaced to short order: do avoid destroying it if you can.

Words of warning

If you think the piece you are concerned about may be antique, then be sure to have an expert look at it before you do anything to it at all. It is quite possible that it may be worth more in its original state, even if damaged, than it would be after anyone but an expert had tried to restore it.

Some old paints may also be valuable in themselves. If you think that a painted piece may have a distinguished pedigree, get an expert to check.

Camera Press

Be very careful with veneers. Much old furniture was covered with thin sheets of polished veneer, cut from exotic woods with beautiful grains. These woods were probably more expensive than ordinary woods, even in the old days when there was more wood available. If you are not sure if a piece is veneered, take a close look at the edge of a flat surface: you will normally see where the veneer is joined.

Repairs to veneers — or to marquetry, which is made up of pieces of veneer — are dealt with later, but you can treat *superficial* blemishes as if they were on solid wood. Remember, however, that veneers are very thin and probably fixed to their base with Scotch glue which is easily soluble: if you let water or a solvent seep under the veneer it will lift up and you will be left with a major job of restoration. To avoid this, veneers must never be varnished with anything containing turpentine or its substitutes. Quick-drying, volatile spirit varnishes are used instead.

Old finishes

Much old furniture was finished with materials that are no longer normally used. It may, therefore, be tricky to match the old finish with one available today.

Cellulose-based lacquer was used to finish a lot of 20th century furniture. This has nowadays been superseded by the much tougher polyurethane finishes. If the damaged area of such a varnish is anything but tiny, you are best advised to re-finish the whole piece.

French polish is a common traditional finish. It is composed mainly of shellac dissolved in methylated spirits. Its characteristic is a very fine, mirror-like surface, which is, however, delicate and easily marked by heat or liquids. The surface shine is a result of the polishing technique, rather than the ingredients, which is why large-scale French polishing is best left to experts. Simple repairs and the revival of existing polish, however, can be done at home.

Finishes based on oil or wax are still used, although the exact ingredients may have changed. With care the available varieties can be used with old ones. A final overall waxing will help to conceal any differences.

To tell one finish from another. First pick a small part of the surface which will not show or will have to be replaced anyway, check that the surface is not veneered and rub real turpentine (not a mineral substitute like white spirit) on the spot with a soft cloth. This will remove dirt and also any wax or oil finishes: if these were the ones used, you will quickly reveal the bare wood. If there is still a polished surface left after applying turpentine, rub on a little methylated spirit: if French polish was used the surface will go sticky and soft. If the polish hasn't been removed another test, which is suitable for veneer, is to scrape a small area with a razor blade. French polish should give very thin shavings or curls; oil-based varnishes produce thicker shavings; cellulose varnishes scrape to powder.

Cleaning

No repairs will work well on a dirty surface, so clean it before doing anything else — you may need to clean the dirt off a piece before you can be sure how much repair work it needs.

Be careful when cleaning, especially with French polish.

Never pour vast amounts of soapy water indiscriminately over wooden objects as they may well become so water-logged that they either warp or rot. Wipe over the piece with a soft cloth dipped in warm water and detergent; wipe dry immediately afterwards. How gently you have to treat the finish depends very much on what it is. Wax build-up can be removed by sprinkling dry detergent, such as Vim, on a slightly damp cloth and rubbing down with this. Paints or thick varnishes can be treated with commercial cleaners. Once the piece is cleaned, you may find that all you need to do is to wax the surface again thoroughly, or to revive a French polish. Or you may get a good look at scratches, dents and burns that you must now deal with.

Keep a sharp eye out for bargains in second-hand furniture. Some cheap pieces may need carpentry work or at least complete stripping, which are dealt with in later chapters: but you often find sound pieces that need no more than cleaning, or slight touching-up and re-polishing.

Small blemishes

Scratches. If they are superficial they can be treated with commercial scratch removers or rubbed out with flour paper (very fine abrasive paper) which has been dipped in linseed oil. This will make it a very gentle abrasive but do not remove any more of the surface than is required.

Deeper scratches in French polish can be treated with semi-set commercial polish (see below). Other finishes can be filled with melted beeswax, which has been coloured to match the surrounding surface. Melt a little beeswax in a tin and add vegetable dye a little at a time, stirring it in thoroughly till the mixture is the right shade to match the wood. Let it cool and set, then roll it into a convenient shape like a tube. Heat up the handle of an old spoon, just enough so that the wax is malleable when you press the spoon on to it, and push wax into the scratch with the spoon handle. Slightly overfill the hole, as the wax will contract a little. Let the wax cool completely, scrape off any excess and rub the surface immediately around it with flour paper, to help the polish blend in. Then re-finish the area to match the rest. An overall polish with household wax can help to make it less noticeable.

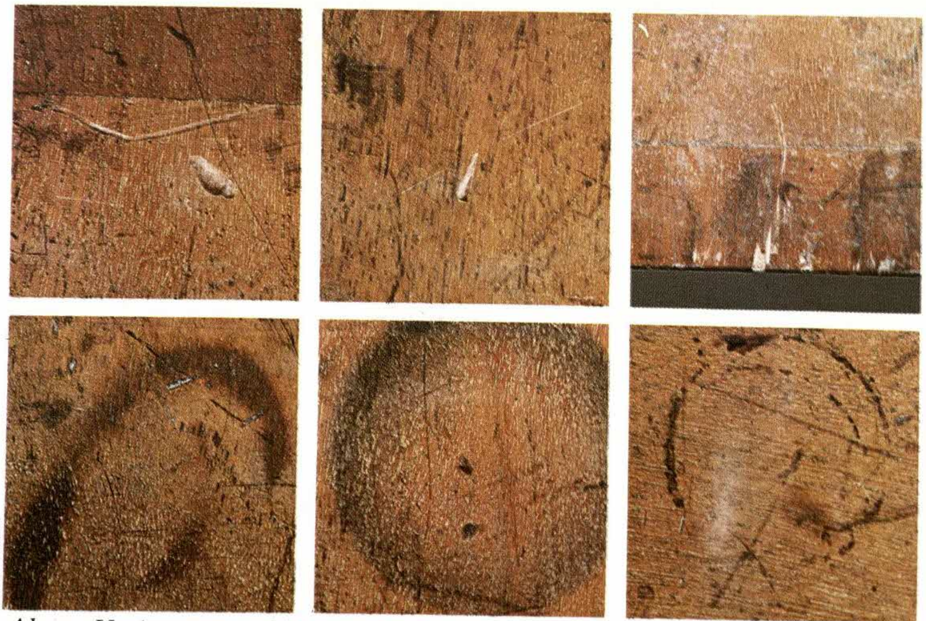
Cigarette burns can usually be rubbed out of wood with glasspaper. If the burn is shallow, use artist's oil paints or shoe polish to colour the area to match the rest of the surface and re-polish when the paint is dry. If the burn is deep, fill it with coloured beeswax and polish as before.

Dents in solid surfaces can often be raised with a damp rag and a warm iron. Lay the rag over the dent and the iron on top. This will restore moisture to the top of the wood and so bring its surface level up. Be very careful not to scorch the surface by letting the iron get too warm or by leaving it there too long.

White patches on French polish or cellulose finishes are usually heat marks. You can use a commercial ring remover or rub the marks with a mixture of equal parts of real turpentine and linseed oil. Clean the patch off with vinegar and repeat the process till the mark has gone.

Black marks are usually caused by water which has seeped beneath the finish. First remove the finish, using turpentine for wax or oil finishes, methylated spirits for French polish and a commercial varnish remover or strong ammonia for cellulose-based or lacquer finishes. Then swab the mark with a saturated solution of oxalic acid (to make this, add oxalic acid crystals (obtainable at chemists) to a cup of water until no more will dissolve). Oxalic acid does not damage finishes, so it can also be used to remove superficial ink stains. It is a bleach, however, so use sparingly and only on the mark itself. Use rubber gloves and do not get the solution on your skin.

Alcohol and nail polish remover (acetone) are both solvents that will attack most polishes so, if any is spilt, wipe up immediately and leave the surface to set. If it has removed the polish, rebuild it with successive layers of polish. Superficial marks may be rubbed out with fine steel wool if they are not on a mirror finish, such as French polish, but to get a truly even surface you may need to rub down the whole surface and then re-wax it.



Above: Various parts of furniture before treating for scratches, burns and discolouration. Supplied by Peter Boswell (Restorations) Ltd.

Dick Miller

Reviving French polish

Many French polished surfaces will have been covered with wax in previous efforts to clean them. This must be removed with turpentine before you try any fresh applications of polish. If a French polish is not damaged and you just want to give it a new lease of life, make up a mixture of five parts methylated spirits, two parts linseed oil and one part real turpentine. Apply this to the surface with a soft cloth pad, working with a steady, continuous circular or 'figure of eight' motion. Rub the surface over with a cloth when it is dry.

Hair cracks. If the surface has split in hair-like cracks or has very light scratches on it, you can try 're-amalgamating' it. In this case, rub it first with the mixture, as above, and then paint the surface with a coat of methylated spirits, which will melt the polish slightly and cause it to run together. Leave the surface to re-set completely and then rub it with a soft cloth. A traditional method is to rub in camphorated oil, which has the disadvantage of a very powerful smell once it's dry.

Padding lacquer. French polished surfaces with more severe blemishes can be treated with padding lacquer, which is obtainable at do-it-yourself shops and which gives a new finish at the same time as it fills cracks. However, it takes practice to become expert. Pour the padding lacquer into a saucer. Make up a pad of soft wadding that will fit comfortably into your hand and dip it in the lacquer. Apply it over the whole surface in continuous, circular movements, without lifting the pad as this will leave a mark. Do not stop till you have covered the whole surface and, when you finish, sweep the pad off the side.

The most important point for achieving a good finish is that the action of polishing must be smooth and regular, with a very gradual increase in pressure. The friction caused by rubbing sets the lacquer, but if you rub too hard at first, the pad will stick. As you are filling cracks, the first application may not leave a completely uniform surface, so repeat the application. Keep on rubbing, hard in the latter stages, till you get a good shine. If you want a semi-matt or satin finish, or to give some extra protection, rub the surface with fine-grade steel wool and apply a wax polish on top. There are now available commercial French polishes, which include a solution which you rub over a new application of polish to remove marks caused by the first application. These still require practice and care, but if you have much that is French polished, you may want to try re-polishing.

This old French polished piece looks drab and scarred: but by carefully filling the holes and reviving the overall polish, you can restore it to a handsome finish.

Steve Bicknell

Deep scratching in a French polished surface can be filled with semi-set commercial French polish. After rubbing the scratch (or burn) mark out, colour the bare wood, if necessary, with a little wood stain or artist's oil paints. Matching an existing colour can be very tricky, especially if the piece was stained. Mix the colours as best you can but be warned that you may not achieve a perfect match. Pour a little more clear commercial French polish than will be needed to fill the hole into a saucer. Let it sit there to set for up to two hours, till it is treacly. Then pour it into the hole letting it overfill slightly. Let it set hard, then rub it down to the adjacent surface level with flour paper and repolish the surface.

Painted furniture

If there are large areas of paintwork that are damaged, then the only practicable solution is to re-paint, which may also give you a chance to give a new lease of life to an old painted piece with a new colour scheme. If, however, there are small problem areas on old paintwork, you can patch them.

Clean out blemishes to the raw wood, using a commercial paint stripper and sandpaper. Fill any holes with a commercial brand of wood filler and rub these down with fine sandpaper so they are level with the wood surface. Then paint the patch with an undercoat as this will reproduce the look of old paint. Match it in colour by using a white undercoat tinted with artist's oil paint — tint it slightly lighter than you want the finished result to be as it will darken a little as it dries. Undercoat will have to be sealed with clear varnish or else it will crumble and become rough. To blend in with a matt finish, use a coat of clear matt varnish. To match a gloss finish, use clear varnish over the whole surface, not just the retouched area, or else you will get an uneven appearance. The varnish will give a slightly yellow tinge but this should not matter except over pure white.

Creative dyeing techniques

Colour — dyeing 2

Modern hot and cold water dyes make it possible to experiment with colour not only on fabrics but with unusual materials like suede and novel surfaces such as fabric-covered shoes and handbags: these can be made darker in tone or changed into entirely different colours with very little effort.

Of course, as with everything, a little practice helps. So don't throw your suede coat into a dye bath without trying to dye suede in a small way first. Creativity is, after all, a process of development, so begin with something you can afford to make a mistake on. Become familiar with the way each type of material takes dye and, as your technique develops, you can try more and more imaginative ways to create original effects.

Special techniques

Layering. This is just one way to achieve an eyecatching effect: try it with a long, floaty dress, a flared skirt, scarf or T-shirt — even tights. It's surprisingly simple to do yet looks like the result of a highly complicated process.

Wash your garment and steep it in the dye bath. Almost at once begin to pull the garment out of the dye bath in stages — just a little at a time — but leave a small amount at the bottom in the dye for the full dyeing period. The result will be a delicate shading from pale to deep, rich tones in whatever colour you choose.

Layered effects are quicker to achieve with hot water dyes but cold water dyes (for natural fibres, viscose rayon) are completely colour fast, although they take longer.

Macramé chokers and belts can also be given this clever touch. Mark the centre of the length. Then, starting at the middle and using cold water dye, remove the item from the dye a little at a time at 15 minute intervals, leaving the ends in for a full hour.

Always wash items afterwards to get rid of excess dye.

Painting with dye. Special dye-thickening agents are available which are designed for painting with dye on fabric. Using this technique clothes can be given a totally original look, and no special artistic skill is necessary if you work from traced designs or use stencils.

Paintex, perhaps the best known of these fluids, is mixed with cold water dye and is suitable for use on natural fibres — cotton, linen, silk, suede and chamois. Wool takes the colour in a softer shade and painting on cotton/Terylene mixtures gives a stippled effect that can be fascinating.

To paint fabric. Wash and dry the garment first (if it is washable), then lay it out flat on a working surface which has been covered with old cloths or a polythene sheet. Mark out your design in pencil.

Slip a piece of card between the layers of fabric so that only the top layer takes the paint.

Mix cold dye, Paintex and fixative. Together they make a gel which you paint on to the fabric with a stiff brush. Apply more thickly for deeper colour.

Dyes can be painted on fabrics with a brush, once thickening agent is added.

Keith Morris

The gel looks like a paint but acts like a dye in that, if painted over a colour, it combines with that colour to produce a third.

The fabric actually dyes as it dries. So leave the fabric to dry naturally for about six hours, then scrub off the thickener with cold water.

Wash and iron the material in the usual way for the fabric to regain its natural feel: the colours are absolutely fast when dry.

Fabric shoes and handbags. Satin, crepe and canvas shoes and handbags can be dyed to match or tone with your outfit simply by making up the required dye solution and stroking it on smoothly with a soft toothbrush. Use hot water dye for satin and crepe and cold water dye for canvas.

Before dyeing, pad out the fronts of shoes first with paper or rags and wet the fabric thoroughly. The edges of the soles can be masked with tape.

Dyeing suede

It is sometimes difficult to buy suede in exactly the shade you want as most items come in a limited colour range. Dyes enlarge the possibilities for suede garments and accessories, like bags and hats, and are invaluable for reviving old suede or decorating it with dyed appliqués of suede flowers or patchwork.

There are special suede dyes which, unlike leather paints, are true dyes and react with the original colour to form a third. For example, if you dye a pair of red shoes with blue dye they will end up as purple.

It's always better to dye light tones to a darker colour or to freshen them with their own colour. Suede stays supple even after several coats of dye.

To dye suede. Make absolutely sure that all grease and dust is removed first, then brush the surface to bring up the nap.

Apply the colour to a small area at a time, working the dye well in with the brush provided.

Leave the suede to dry thoroughly, brush to bring up the nap again, then apply a second coat for a deeper colour and brush again when dry.

Different suedes have different absorption levels and one item may take more dye than another of the same size, so it is wise to buy a little more than you expect to use. The remainder can often be returned if it has not been opened or it can be used to dye small objects or a suede trim.

Layering, or dyeing in stages, gives dramatic shaded effects. The scarf is painted with dyes for extra colour.

Steve Bicknell

Counter-enamelling and millefiore

Enamel 2

There are many techniques you can use in enamelling but, initially, there is enough fascination in the brilliantly coloured surfaces to inspire you to become familiar with handling and firing simple pieces.

When a piece of metal is fired — ie when it is subjected to extreme changes in temperature — the metal becomes permanently softer. So, once a piece has been fired, remember to handle it gently as it could bend more easily than you expect.

The enamel, when fired, also affects the metal. When the metal is heated it expands and, once removed from the muffler, it contracts again. Because the enamel does not contract to the same degree, it causes the metal to curve slightly. This will not matter when you are firing small pieces but when you come to make larger pieces — especially if you want a flat surface in order to combine the fired pieces to make up a larger piece — it does become important.

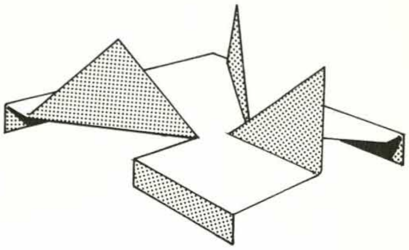
Melvin Grey

The piece, covered with enamel powder, is placed on the stilt for support. Contact between the counter-enamelled surface and the stilt must be kept to the smallest possible area to avoid spoiling the surface.

First of all, don't try to press it flat! To counteract this curving, the metal should be counter-enamelled — ie both sides of it must be enamelled. The enamel at the bottom will pull the metal to the same degree as the enamel on the upper surface and so keep the piece flat. It is also useful when a small piece is being fired a number of times to achieve a more intense colour effect, to prevent the metal curving to extremes thus causing the enamel to chip off.

Tools

Apart from the techniques and tools in Enamel, chapter 1, all you will need to counter-enamel a piece is a tripod or stilt on which to rest the piece while it is being fired. You can buy a stilt specially made to form three points on which the piece can rest for the second firing (fig.1).


Trevor Lawrence

1. *A stilt must be used to support the metal if both sides are being enamelled. If the stilt has a flat bottom it should be placed on the wire mesh stand. The stilt illustrated can be used without the wire mesh stand.*

Counter-enamelling

The counter-enamelled side of a piece is enamelled first and it forms the wrong side of the completed piece.

Enamel powder made especially for counter-enamelling is available from craft stores but you can also use ordinary enamel powder.

Counter-enamelling powder is similar to the enamels used for industrial purposes. It is extremely durable and because it is hard-firing — ie requires a high temperature to fire — the enamel will fire before the counter-enamelling becomes completely molten. Once you have counter-enamelled a blank you fire the second side with an enamel powder and the counter-enamelled side will remain intact.

☐ Prepare one surface of a piece of metal by rubbing it down with a piece of emery or glasspaper. The surface should be quite textured and criss-crossed with fine scratches. This will be the wrong side—ie the counter-enamelled side eventually.

☐ Do not handle it with the fingers. Using tweezers turn it over and apply anti-fire scale liquid. This is not essential but it does make it easier to remove the fire scale — in fact it should flake off quite easily once the piece has been fired. Leave the anti-scale liquid to dry.

☐ Switch on the kiln if you have not already done so.

☐ Turn the piece over with the tweezers and sieve on the counter-enamelling powder.

☐ Fire the piece until the enamel looks wet and has an even surface.

☐ Remove the piece from the muffler and let it cool. If your kiln does not have a temperature regulator then leave the door open so that the kiln will not overheat.

☐ Once the piece has cooled, remove the fire scale with a piece of emery paper and continue rubbing until you have a scratched surface.

To enamel the right side sieve the enamel powder on to the piece as before. (You do not have to use the same colour as previously.)

☐ Place the tripod or stilt on to the wire mesh and place the powdered piece on it. Once a piece has been enamelled and the other side is to be fired as well, the stilt must be used, as the first enamelled side on which the piece will be resting becomes molten. So, to keep the surface intact the supporting points from the tripod or stilt should be as small as possible.

☐ Fire the piece, remove it from the kiln and leave to cool.

☐ If the colour is not even, you can use more powder and fire the piece a second time.

There is no reason why both sides should not be equally attractive. Fire a few small pieces first, remembering to remove all the fire scale after each firing. If you are careful about placing the counter-enamelled metal on the stilt and keeping it clean, both sides will be perfect.

Counter-enamelling is especially useful when making jewelry such as a bracelet which is worn next to the skin. The counter-enamelling will prevent the metal from discolouring the skin which it would do otherwise.

Millefiore

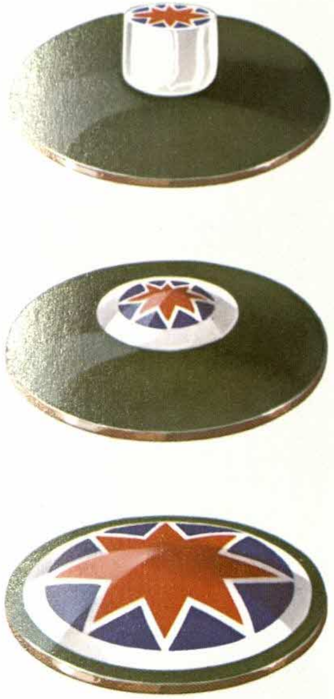
Millefiore are enamel rods of different colours which have been joined and then cut into 'slices' to reveal a flower-like design on the flat ends of the slices. These can be bought in varying sizes and colours.

☐ To apply the millefiore first fire the pieces until they are complete — ie both sides are fired. You should always counter-enamel a piece when you use the millefiore.

☐ Powder the piece again and place the millefiore in the required position. Refire the piece.

Remember to rest it on the tripod otherwise you will spoil the underside. The firing time will take longer than previously as the millefiore and the enamel powder have to combine and run into each other.

☐ The heat will cause the millefiore to melt and run flat on the existing surface. Fire it until it has the finish you want (fig.2). The powder will become molten and then fuse with the millefiore. The longer you leave it in the kiln the flatter the millefiore will become as it spreads. Once it is flat and smooth remove the piece from the muffle and leave to cool.



2. *The millefiore is placed, on the enamel and fired. The longer its left in the kiln the flatter it becomes.*

Camera Press

The pieces are enamelled and then millefiore or Venetian glass beads are placed on the upper surface and then fired again to create flower designs. The pieces should be counter-enamelled to prevent the enamel from chipping.

Steve Bicknell

Beautiful bead mosaics

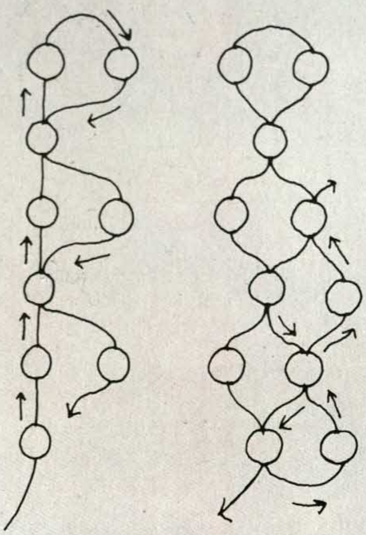
Beadwork 4

Threading beads is the easiest thing imaginable but the prospect of making a beaded belt or a handbag covered with beads can be a daunting prospect. Building up dense surfaces or 'fabrics' entirely of beads looks hopelessly complicated but is, in fact, as straightforward as stringing a single row once you have mastered the basic techniques of bead mosaics. Then you can make beaded bracelets and belts, even handbags and boleros in no time at all.

Working bead mosaics

There are three basic methods of working bead mosaics and each can be quickly grasped by following the route of the thread in the following diagrams.

Alternating bead method. To make bead fabric in this way, simply thread one row of beads, fairly loosely, to the desired length. Then take the thread back through the last bead but one and every other bead in the first row, adding a new bead between each rethreading as shown (fig.1). You will find the bead fabric builds up quickly and easily. Large beads such as wooden ones are best suited for this mosaic technique.



1. *Adding alternate beads builds a mosaic.*

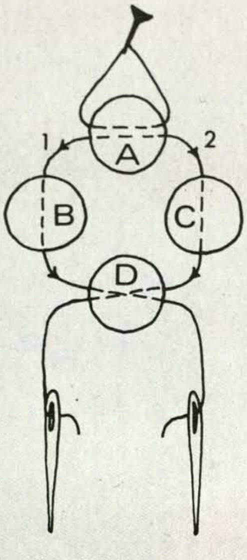
Two cord technique. Before you begin to work with this method tie the first bead to a secure working surface such as a chairback or polystyrene block.

Thread a needle on to each end of the cord you will use to string the beads. Pass one needle through the secured bead and draw the cord through until it is exactly half way through the bead and both needles are parallel.

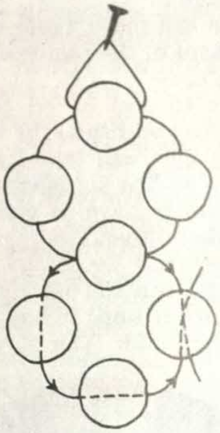
Following fig.2, thread two beads (B and C), then pass both needles through the next bead (D) so that the cords cross. Continue working, repeating B and C, then D again. To tighten beads, pull both cords.

To turn a corner cross the cords through the bead on the right side as shown (fig.3).

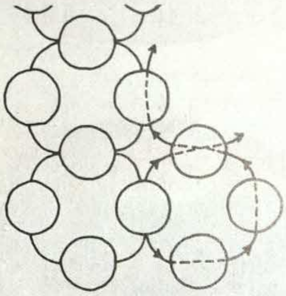
Fig.4 shows how to work back up the length. This time the cords cross on the top bead.



2. *Making bead fabric using two cords.*



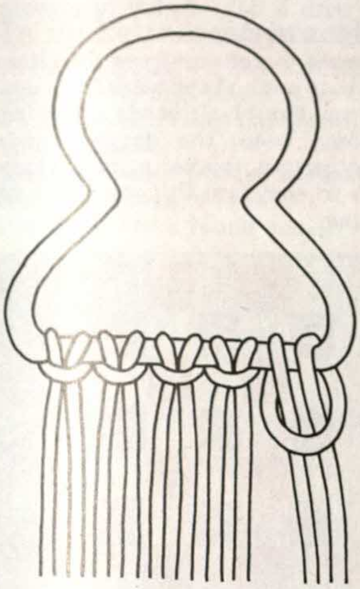
3. *Turning corners with two cord method.*



4. *Two cord mosaics build up this way.*

Dick Miller

Multiple cord technique. This involves working with a row of cords, each of which has been folded in half and attached with a loop to a working surface. Fig.5 shows a belt buckle with a row of doubled cords attached.



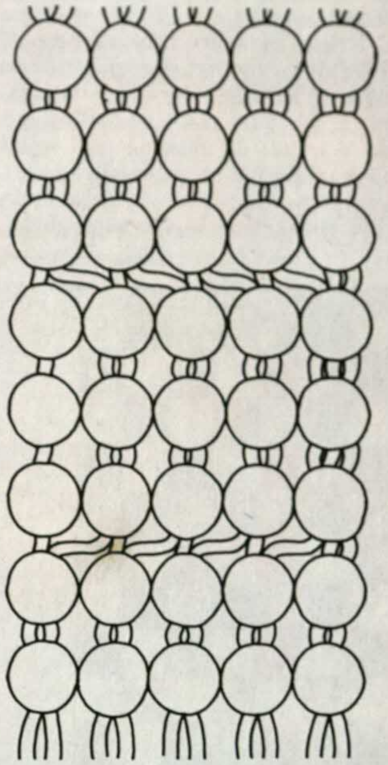
5. *Multiple cord beadwork knots.*

Depending on the thickness of the cord, you can either thread the end of each strand on to a needle or stiffen it with wax for threading direct.

The difference between the multiple cord technique and the other techniques is that in the multiple cord method all the beads are parallel. In the other mosaic patterns they are staggered.

To begin, pass the two threads in each loop through a bead to make one row as shown (fig.6). Work two more rows in the same way, pushing the beads up the cords to the top.

Now thread one bead on to the first cord and pull the second cord across to the third one. Thread the next bead on to the second and third cords as shown (fig.6).



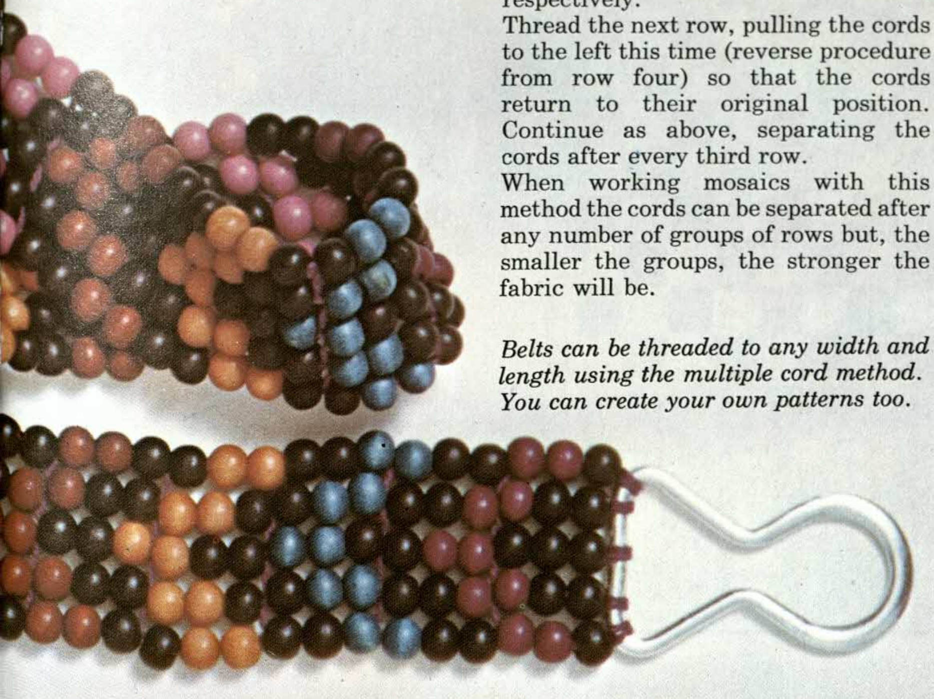
Jacqueline Short

6. *With multiple cords beads are parallel.*

Likewise, pull the fourth cord across to the right, threading the next bead on to cords four and five, and so on. The last bead will have three cords through it and the first bead only one. Thread the next two rows as the first row except that the first and last beads have one and three cords through them respectively.

Thread the next row, pulling the cords to the left this time (reverse procedure from row four) so that the cords return to their original position. Continue as above, separating the cords after every third row.

When working mosaics with this method the cords can be separated after any number of groups of rows but, the smaller the groups, the stronger the fabric will be.



Belts can be threaded to any width and length using the multiple cord method. You can create your own patterns too.

To make beaded belt

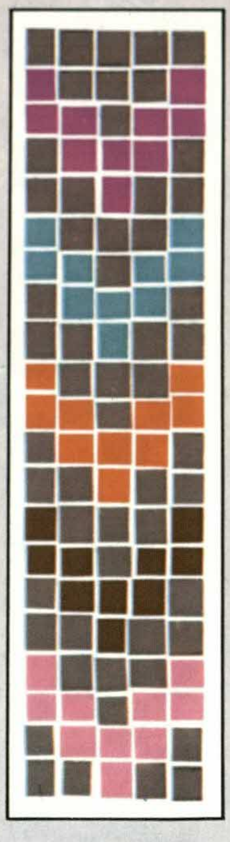
The beaded belt in the photograph was made using the multiple cord technique, described above. Cords were pulled sideways after every third row.

Fig.7 gives the colour pattern and fig.5 shows the clasp used. The length of the belt illustrated is 62cm (24½") excluding clasp. To lengthen or shorten, remember each row is 5mm (⅕") long and the repeat pattern is 12cm (4¾").

You will need:

5mm (⅕") matt-finished wooden beads–
280 black, 60 turquoise, 60 violet,
50 pink, 50 orange, 50 brown.
11.5m (12½yd) knitting cotton.
10 darning needles.
1 metal belt fastener.

☐ Work according to instructions for 'multiple cording technique', using 10 cords (5 lengths folded double). Thread the end of each cord with a darning needle and follow the colour chart (fig.7).



K. Designs

7. *Pattern for belt in photograph.*

☐ When you have worked through the repeat pattern start again — this time at the second row of the diagram.

☐ At the end of the beadwork design work one row of black beads as in the very first row of the diagram.

☐ To finish the belt, work a series of knots around the other half of the belt fastener and thread the spare lengths back through the beads to prevent the knots unravelling.

To make beaded purse

The purse is made by using both the two cord and the alternating bead methods. Completed size 11.5cm (4½″) square.

You will need:
10mm (⅖″) shiny wooden beads—162 black, 12 orange, 13 brown and 12 beige.
120 smaller black rotelles.
11m (12yd) No.18 linen thread.
Two tapestry needles.
10cm (4″) black zip.
Black lining fabric.
Glue.

☐ Measure 1.8m (6′) of linen thread and thread a needle on each end.

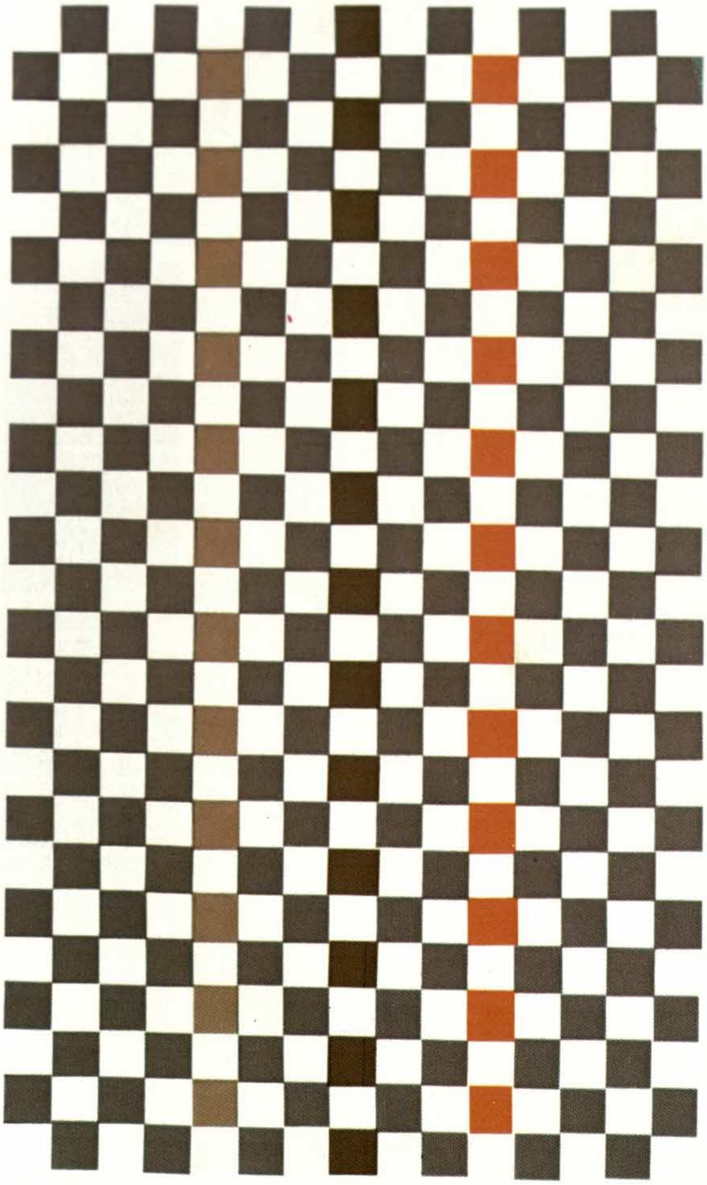
☐ Using the two cord method and following the grid diagram (fig.8), work the design.

☐ When complete, fold the work in half. To sew up sides, take a length of cord 1m (3′) long and thread with two needles as before. Following the diagram (fig.9), pass the thread through beads A and B, leaving an equal amount of thread on each side.

☐ Using a black bead, pass both needles through it in the same direction. Separate the threads and continue as with A and B, introducing a new bead at each junction.

☐ To fasten off, work both threads down a short way on each side. Knot to the adjacent thread, trim off and secure with a dab of glue to prevent the knot unravelling.

☐ To work top of purse use the alternating bead method and work four rows of the smaller black beads. Working separately from the larger beads already strung, make a band long enough to complete the open edge of the purse.



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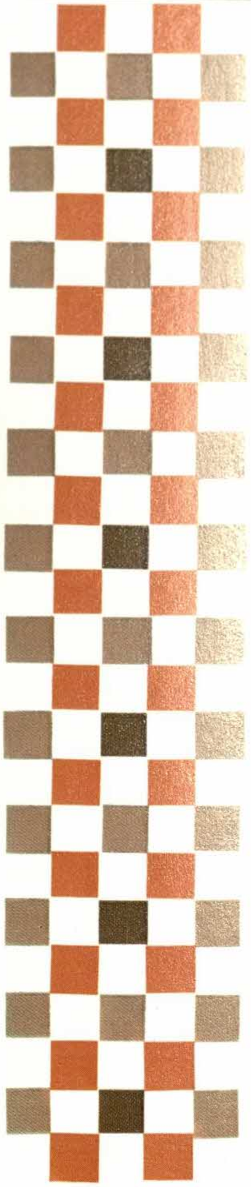
K. Designs



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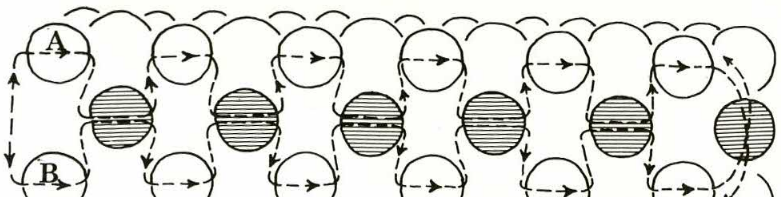


9

Jacqueline Short

8, 9, 10. Coloured figs. 8 and 10 show show how to make bead purse and bracelet. To join sides of purse follow fig. 9.

Finish the edge by joining the first edge to the last, in a bracelet-like band. Now link the band to the purse by using the alternating bead method. The zip and lining are sewn through the top edging beads.

To make mosaic bracelet

The bracelet is worked with the two cord method and uses elastic thread, which makes a clasp unnecessary.

You will need:

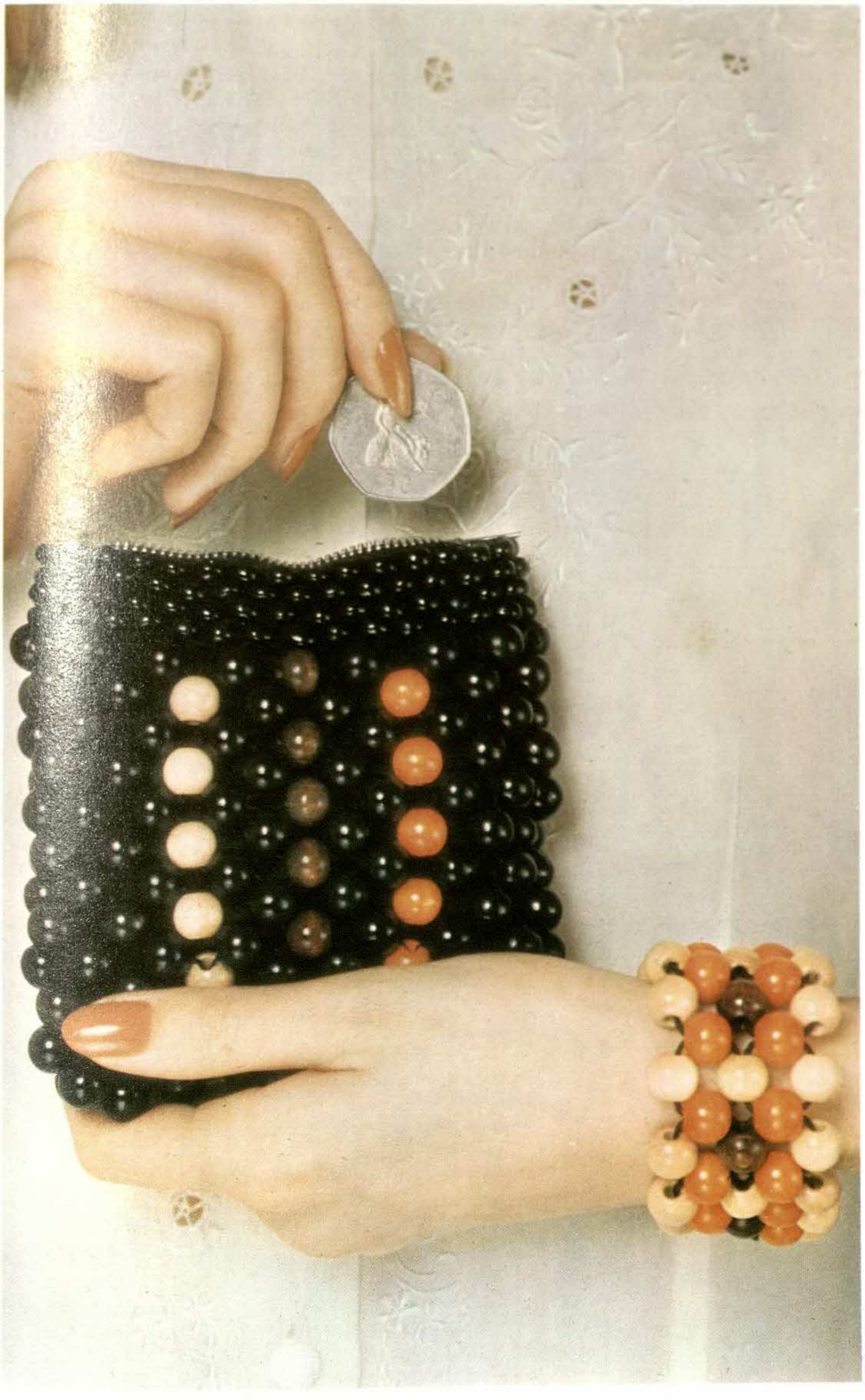
10mm (⅜″) shiny wooden beads: 33 beige, 26 orange, 6 brown.
1.8m (2yd) black round elastic.
2 tapestry needles.

☐ Follow the grid pattern (fig.10) to work the design.

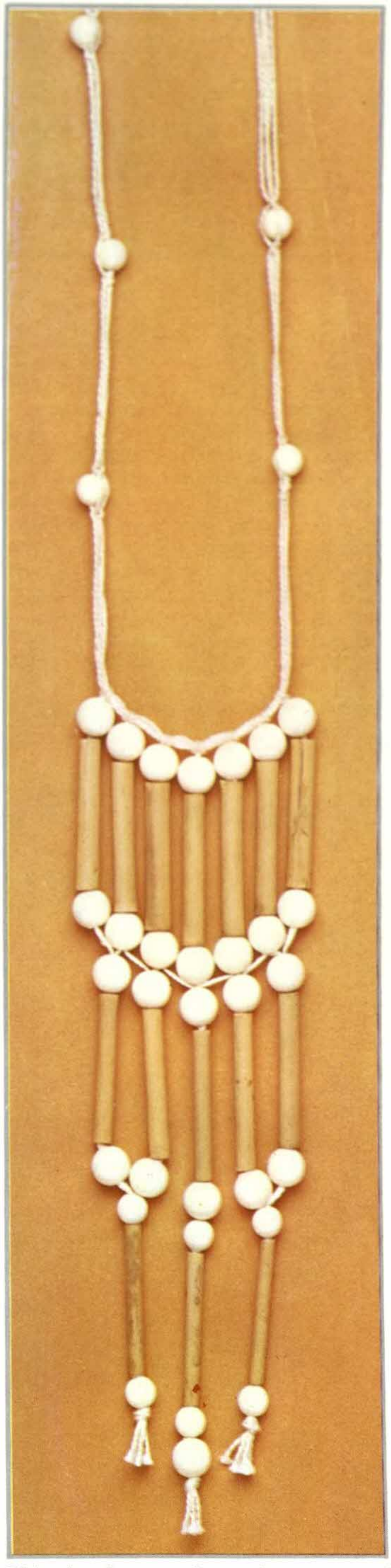
☐ To join the bracelet, insert the remaining beige beads, using the same method as for working the sides of the purse (fig.9).

☐ To finish, knot the ends of the elastic firmly to adjacent cords and secure with glue.

As this purse and bracelet show, beads can be threaded into a mesh of any size using the easy mosaic method. All designs by Jacqueline Short.



Tony Moussoulides



Steve Bicknell

This bamboo pendant shows one of the many original ways that multiple cords can be used in beadwork.

All about ovals

Design know-how 7

Ovals

There are several ways to draw ovals. Unfortunately, most of the really accurate ones are rather complicated or depend on using string and pencil with more accuracy than anyone can reasonably expect. One possible method is described below, but you are best advised either to use a template to copy from or to 'fake' one as we describe — the shape you get will not satisfy a mathematician but it will be quite good enough for using to frame photographs and for most purposes.

To draw an approximate oval. Draw a line, which will be the long axis of the oval, ie the line connecting the opposite sides at the widest part AB. Set the span of your compasses to ¼ the length of the long axis and draw two circles touching each other, both with centres on the line (fig.1).

Measure off an angle of 45° from each centre and mark the point C where these lines cross. Extend the lines back to cut the other side of each circle at D and E.

Set the span of your compasses to CD, put the pin at C and draw an arc to connect D and E (fig.2). Repeat the process to draw the other half of the oval (fig.3).

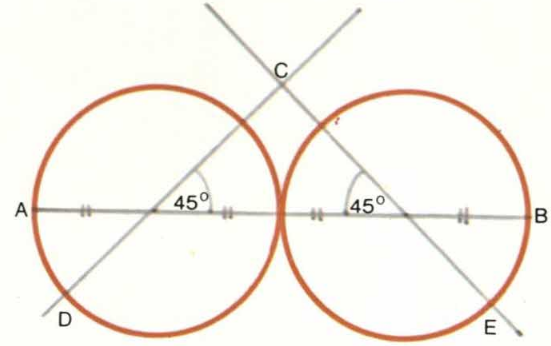
The ratio between the long and short axes of this oval (ie its maximum length and maximum depth) is about 10 to 7.

For a plumper shape. When you are measuring the angles from the centres of the circles, make the angle less than 45°; for a thinner shape, make the angle more than 45°. Otherwise, follow the same method.

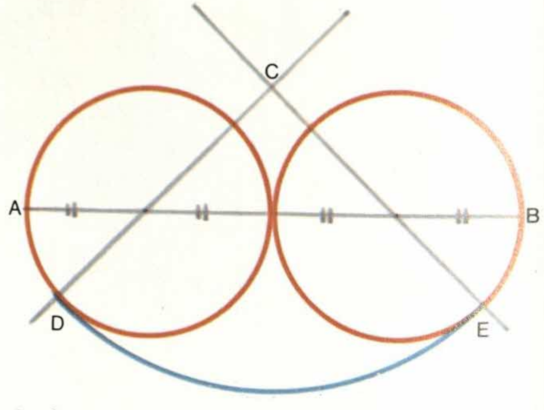
To draw an accurate oval. You can draw an accurate oval, of any given size, by marking off a series of points, to give a dotted line, and then joining them up freehand. If you mark enough points this is not difficult.

The axes of an oval bisect each other at right angles. So, draw the long axis of the oval (AB fig.4). Bisect AB and mark the short axis (CD) on the bisecting line.

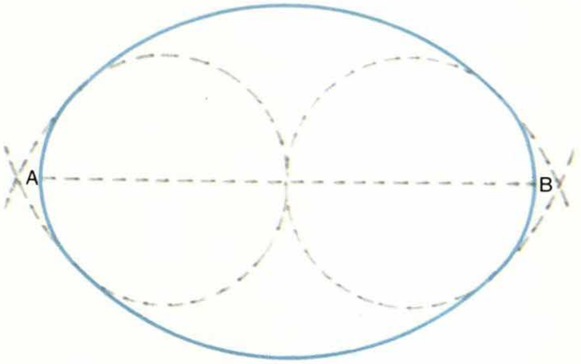
Take a piece of card or anything firm with a straight edge, at least half as long as AB. Mark on its edge two points, X and Y, half the length of the long axis (AB) apart. Mark a third point Z, between X and Y, so that XZ is half the length of the short axis (CD). Put the edge of the card on the axes, so that Z is on the long axis and Y on the short axis and make a dot where X is (fig.4). Slide the card around, always keeping Z and Y on the long and short axes respectively and make dots where X is each time. This will give a dotted oval; join up the dots for the shape.



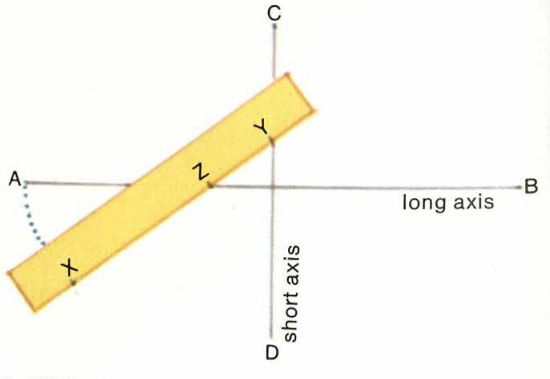
1. *The two circles give the ends of the oval; the lines from their centres give C from which you draw a long side. AB is the long axis.*



2. *An arc from C gives one long side; the same method gives the other.*

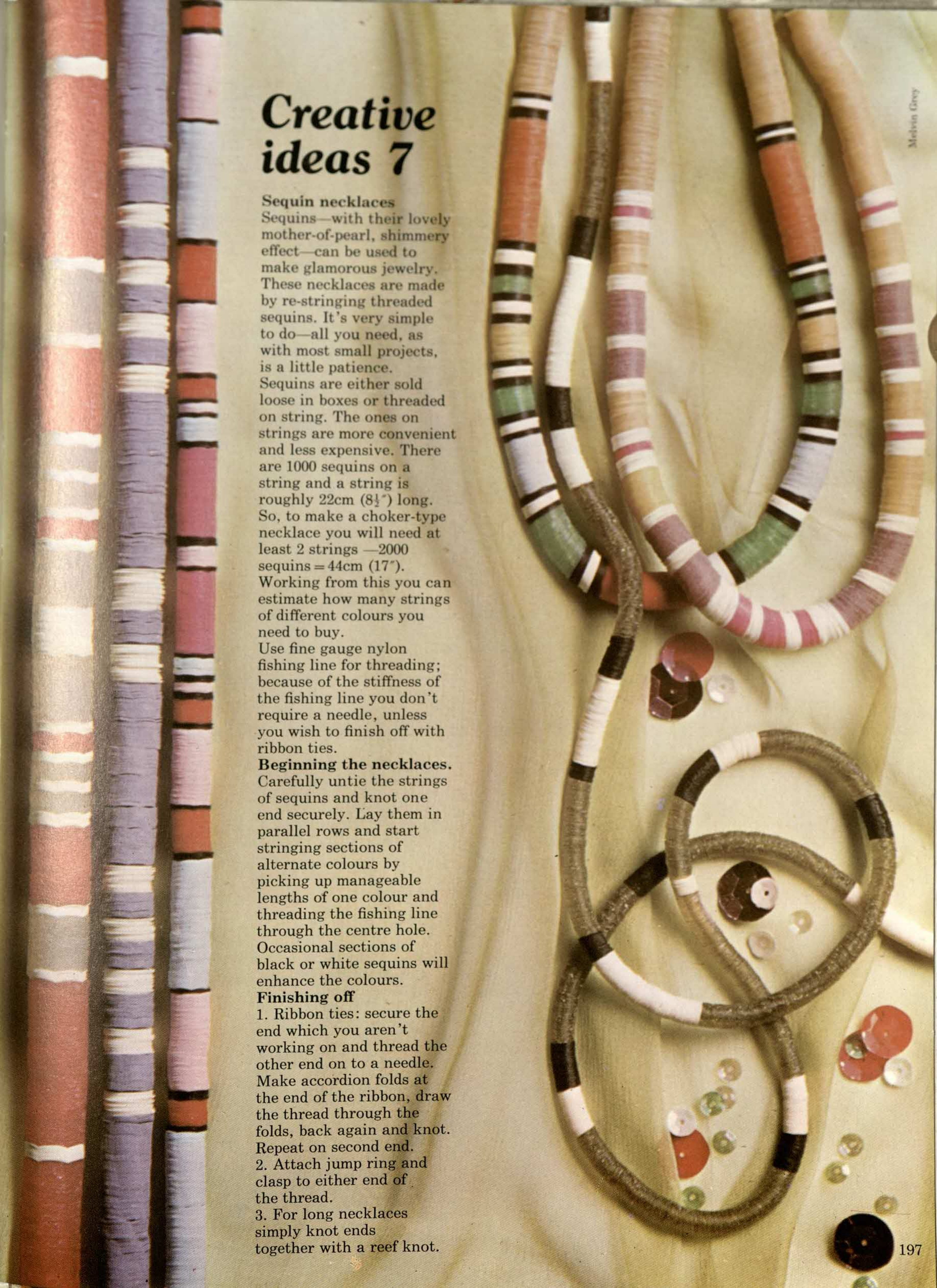


3. *The completed oval — the dotted lines are working lines only.*



4. *Slide the card around, making dots at X to make a dotted oval.*

K. Designs



Melvin Grey

Creative ideas 7

Sequin necklaces
Sequins—with their lovely mother-of-pearl, shimmery effect—can be used to make glamorous jewelry. These necklaces are made by re-stringing threaded sequins. It's very simple to do—all you need, as with most small projects, is a little patience.

Sequins are either sold loose in boxes or threaded on string. The ones on strings are more convenient and less expensive. There are 1000 sequins on a string and a string is roughly 22cm (8½″) long. So, to make a choker-type necklace you will need at least 2 strings —2000 sequins = 44cm (17″). Working from this you can estimate how many strings of different colours you need to buy.

Use fine gauge nylon fishing line for threading; because of the stiffness of the fishing line you don't require a needle, unless you wish to finish off with ribbon ties.

Beginning the necklaces.
Carefully untie the strings of sequins and knot one end securely. Lay them in parallel rows and start stringing sections of alternate colours by picking up manageable lengths of one colour and threading the fishing line through the centre hole. Occasional sections of black or white sequins will enhance the colours.

Finishing off

1. Ribbon ties: secure the end which you aren't working on and thread the other end on to a needle. Make accordion folds at the end of the ribbon, draw the thread through the folds, back again and knot. Repeat on second end.
2. Attach jump ring and clasp to either end of the thread.
3. For long necklaces simply knot ends together with a reef knot.

Small ribbon and tissue flowers

A cluster of enchanting small flowers, made from strips of tissue, crepe paper or self-stick paper-backed ribbon, turns any gift parcel into a more personal and original gift.

You could also make some to stand in a small pot on a table for festive occasions; sew some on to velvet for a pretty headband or attach them to hairpins stuck in a polystyrene ball on a length of dowelling to make a tiny ornamental tree. Stand it in a small plastic pot and set in a cellulose filler such as Polyfilla or fill the pot with pebbles to make it stand firmly.

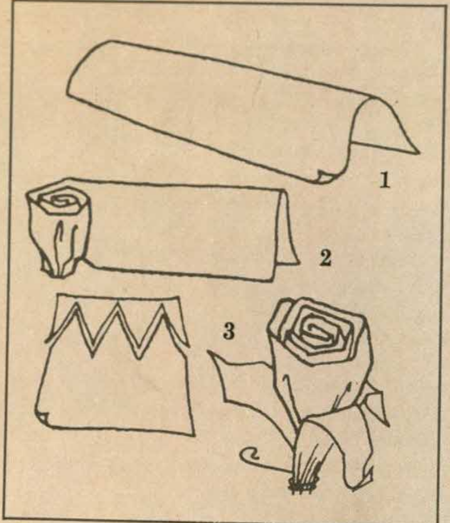
Tissue roses

You will need:

1 sheet of red, pink or yellow tissue paper. (Each sheet will make about 16 small roses.)

1 sheet of green tissue paper.

Paste.



Making paper roses: loosely folding the tissue, winding it into a rose shape, and a rose with its leaf.

☐ For a rose 4cm (1½″) high, cut a piece of tissue 9cm (3½″) wide and 25cm (10″) long. Fuller roses can be 9cm (3½″) wide and 51cm (20″) long.

☐ Fold in half lengthways but don't crease (fig.1).

☐ Following fig.2, roll and bunch up the tissue, squeezing it together at the bottom until the rose is formed. Roll the centre tightly; vary the squeezes and folds by bunching more in some places than others. Secure with paste.

☐ Cut a 5cm (2″) square of green tissue for leaves and cut into shape (fig.3). Roll round the bottom of the rose and stick in place or tie with matching sewing thread.

Ribbon roses

You will need:

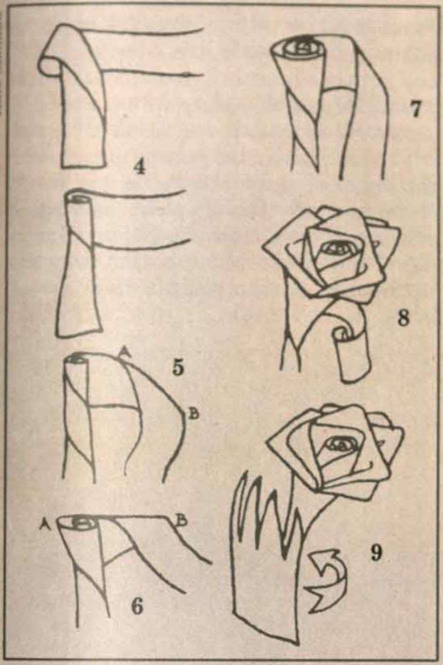
2.5cm (1″) wide Hallmark or other self-stick, gift-wrap ribbon in colours of your choice and green for leaves.

☐ Cut a 51cm (20″) strip of ribbon.

☐ Holding it in the left hand, 2.5cm (1″) from the end, roll the ribbon inwards to form a tight core—approximately 6 turns (fig.4).

☐ Fold the ribbon at a right angle towards the core, forming a diagonal edge (fig.5). Crease the fold from A to B.

☐ Rotate the core, keeping points A and B level with the top of the core (fig.6).



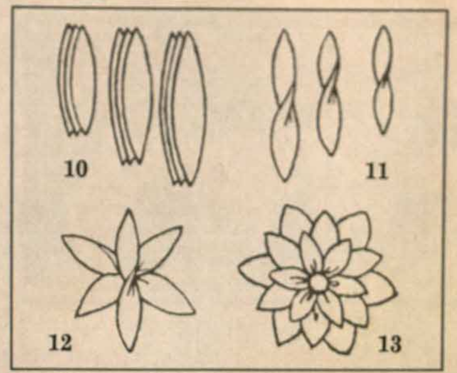
Kate Siminak

Follow these steps for ribbon roses.

☐ At the end of each crease, fold again at a right angle, crease again and rotate core (fig.7). Repeat until the rose is the desired size.

☐ Moisten the end and wrap round the core to fasten (fig.8).

☐ Cut some leaves from green ribbon (fig.9). Moisten and wrap round the base for a stem.



How to cut out ribbon poinsettias.

Ribbon poinsettia

You will need:

2.5cm (1″) wide Hallmark or other self-stick, gift-wrap ribbon in red or yellow.

☐ Cut 3 strips of ribbon in each of these lengths: 15.5cm (6″), 12.5cm (5″), and 10cm (4″). Cut both ends of each piece to a sharp point (fig.10).

☐ Moisten the centres and twist the centre of each strip to form two petals (fig.11).

☐ Moisten the centres of the medium-size petals and join them together. Repeat with the larger and smaller petals (fig.12).

☐ Moisten the centres of the medium-size petals and join them to the largest petals. Add the smallest petals.

☐ Add a circle of coloured ribbon to the centre (fig.13).

Steve Bicknell

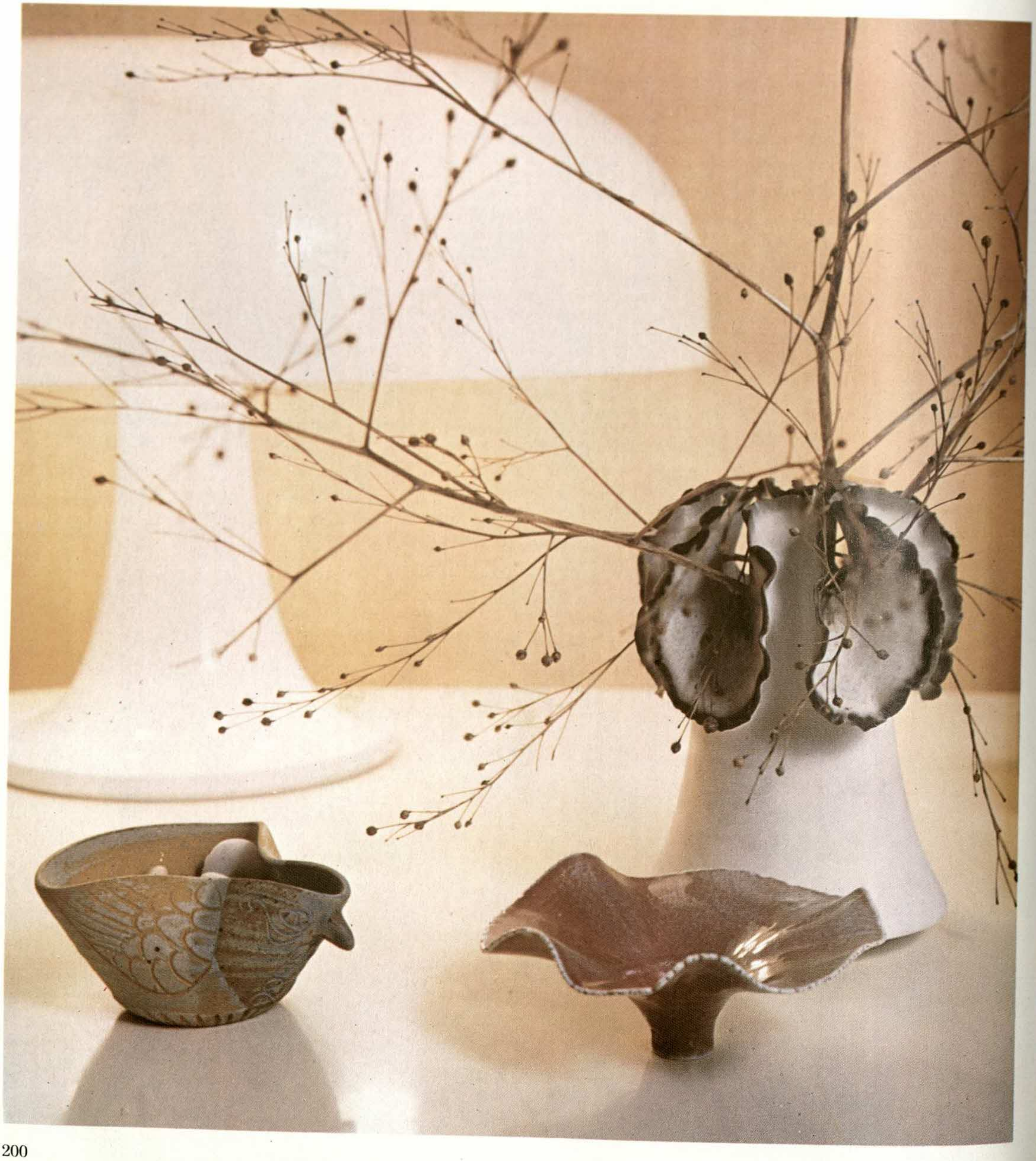
A small posy of yellow ribbon roses. Below: a group of exciting-looking parcels decorated with an assortment of ribbon and tissue paper flowers.

Dick Miller

Making simple pinch pots

Clay 5

Pinch pots or thumb pots are made by pushing the thumb into a ball of clay and gently squeezing the ball to hollow it out. Repeated squeezing or pinching turns the clay ball into a small bowl, which can then be manipulated with the fingers to give the shape you want. It is one of the simplest and most primitive ways to make a pot. Stone-Age Man made pots in this way for storing and cooking food, and primitive



Graham Henderson

peoples throughout the world still use this method for making domestic and decorative pots.

Modern potters also use the technique to make elaborate and delicate pots.

No tools are required; you simply work the clay in your hands so, for the beginner, it's a good way to become familiar with clay and what it will do.

Because pinch pots are formed in the hands and fingers, they often have natural-looking, slightly irregular shapes that suggest organic forms. The delicate cream and grey pot shown here, for example, suggests a seed pod, and the thin and delicately textured bowl shown suggests an exotic flower.

To make a pinch pot

Choose clay which is soft but not too sticky. If the clay is hard it is difficult to work, and if it is sticky it will immediately collapse out of shape.

☐ Break the clay into pieces about the size of a tennis ball, and roll a piece between the palms of the hands until you have a smooth ball (fig.1).

☐ Hold the ball of clay in your left hand, balancing it so that it sits comfortably in the palm with the fingers curled loosely around it.

☐ Push the thumb of the right hand into the centre of the ball (fig.2), and go on pushing until you are about three quarters of the way down.

☐ Squeeze in a slow, spiralling movement, turning the ball evenly in the palm of the hand while you squeeze (fig.3).

You will find this squeezing and rotating process easier if you hold the ball of clay sideways in your palm.

Keep the surface of the clay smooth, and follow the outside shape with your fingers as you squeeze.

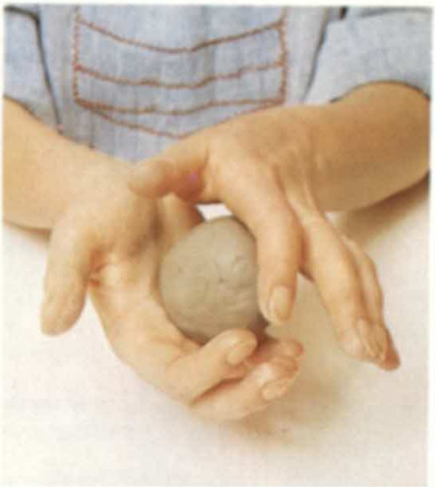
If you remember that the outside and inside shape of a pot should always be the same, the walls of the pot should have a uniform thickness.

☐ Continue rotating and squeezing, working slowly up the walls of the pot and leaving the rim until last (fig.4). Aim to keep the opening of the pot as small as possible at first, or the pot will go out of control.

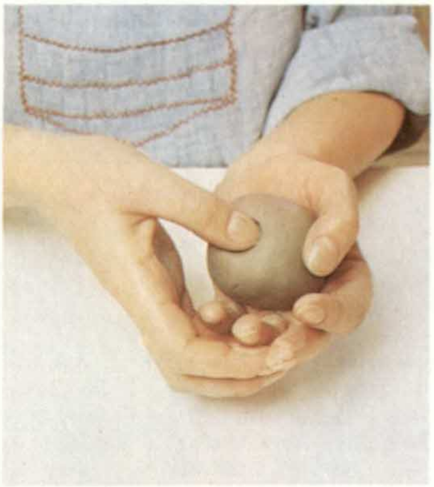
☐ Work the top of the pot last. Hold the pot sideways in the palm of the hand and gently squeeze the rim until round and even—the best way to do this is to reverse the position of the thumb and fingers so that the thumb controls the shape of the outer rim (fig.5).

☐ Use a finger to smooth out any cracks that may have appeared in the rim (fig.6).

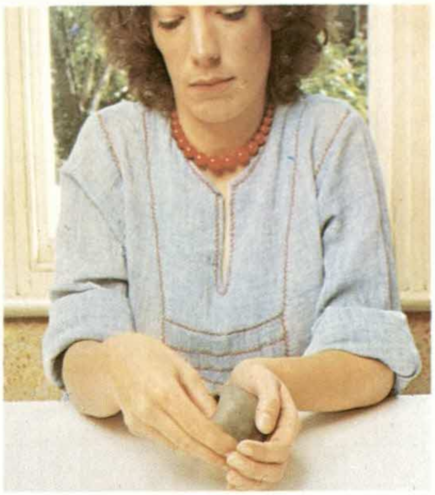
Left: all these were made by pinching: bird shaped pot designed by Jane Gabbatiss; large pot by Deidre Burnett; fluted bowl by Elizabeth Duncombe.



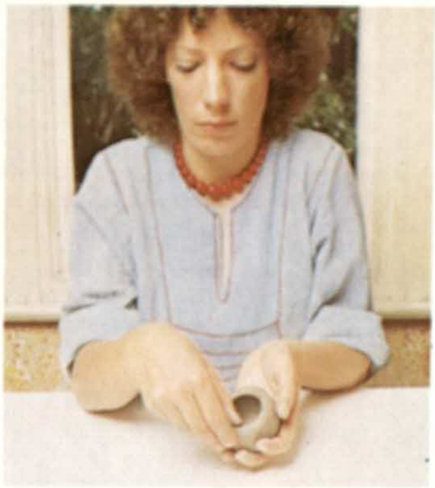
1. *Break the clay into pieces about the size of a tennis ball and roll each piece in the palms of the hands until it is completely smooth.*



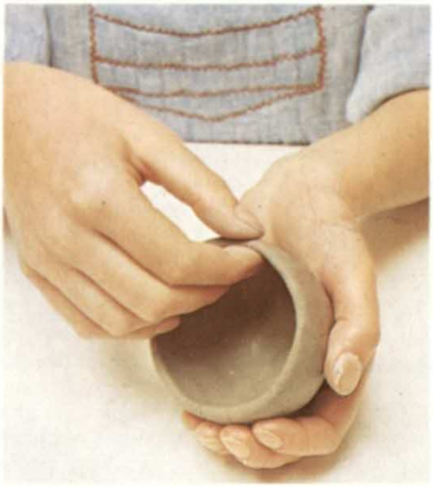
2. *Hold the ball of clay loosely in the palm of the hand and begin to push the thumb of the other hand down into the centre of the ball.*



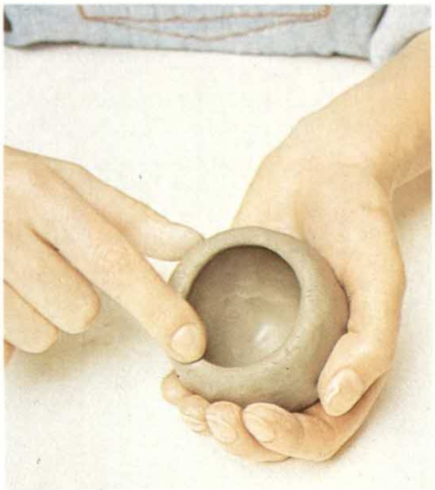
3. *With the thumb on the inside and the fingers on the outside, gently squeeze the clay. Hold the clay slightly sideways and rotate slowly.*



4. *Work from the bottom of the ball upwards, squeezing in a continuous, spiralling movement until the walls of the pot are about 6mm ($\frac{1}{4}$") thick.*



5. *To work the neck of the pot, reverse the position of thumb and fingers and gently squeeze the rim until it is round and even.*



Nelson Hargreaves

6. *Smooth away any cracks that may have appeared on the rim with a fingertip or, if it is too dry, use a slightly dampened sponge.*

☐ Work on several balls of clay at one time, allowing them to stiffen in the intervals of being worked. Pinch the clay until it is about 2.5cm (1") thick, then stand it upside down on the rim to stiffen. Do not stand it on the base or it will sag and spoil the smooth inside curve.

Once the pot has stiffened slightly you will be able to pinch it thinner and still keep a good shape.

If your pot goes wrong. With practice, small bowls and vases can be made in about ten minutes, but never try to hurry a pot. Do not work the clay for too long either, or it will dry and split from the warmth of your hands. If it does crack, you may be working with clay that is too hard. Smooth the cracks away with a fingertip, but do not try to wet the clay or it will collapse. If you find that it is too dry to work with comfortably, moisten your hands very slightly.

Developing different shapes. If you are working with real clay and intend at a later stage to fire your pot, be careful not to fold the clay. Folding traps air inside the clay, which will cause the clay to crack or even explode when you come to fire it.

Begin by making a few simple bowls and see how thin you can pinch them. When you have mastered this, try making different shapes—some round and some oval.

Once you are familiar with the process, the first simple bowl and vase shapes can be developed into delicately controlled organic shapes. They can also be placed rim to rim to make a rounded shape, oval or flattened, which is called a pebble pot.

To make a pebble pot

Pinch two bowls with same size rims.

☐ Score the rims with an old toothbrush dipped in water and press them firmly together. The air trapped inside supports the shape while the pot is being worked.

☐ Seal the join by rolling out a small coil of clay, a little thinner than a pencil for a pot about 10cm (4") in diameter, and pressing it round the join. Smooth this with the fingers until the surface of the pot is smooth and the join invisible.

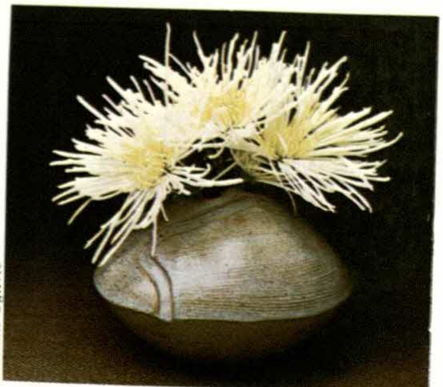
Put the pot on one side to allow the join to dry out.

A pebble pot can be left as a smoothly rounded sphere or oval shape, or it can be tapped with a flat piece of wood to give an angled, textured form.

Cutting holes. If the pot is to be fired, it must be pierced so that the air trapped in the pot will not expand with the heat and crack the pot.

When the pot is dry, cut a hole in the surface as with the interesting oval pot shown here.

Pebble pots made in self-hardening clay, however, do not need to be fired and so the clay can be left solid.



Alasdair Ogilvie

Fine example of an oval pebble pot, designed by Jane Gabbatiss.

Joining pinch pots

Another idea is to join together a group of small pinch pots to form a cluster that could be used as a cruet, a tiny pot-pourri, or a place to store rings, pins and beads. Use the same method to join the pots—score both surfaces with a moistened toothbrush and press them firmly together.

Decorating pinch pots

Pinch pots made in self-hardening clay can be painted with poster colours, Indian inks or gouache. The pots in the group shown here were decorated in geometric patterns in colours similar to natural earth colours, to emphasize the pleasing simplicity of their shapes.

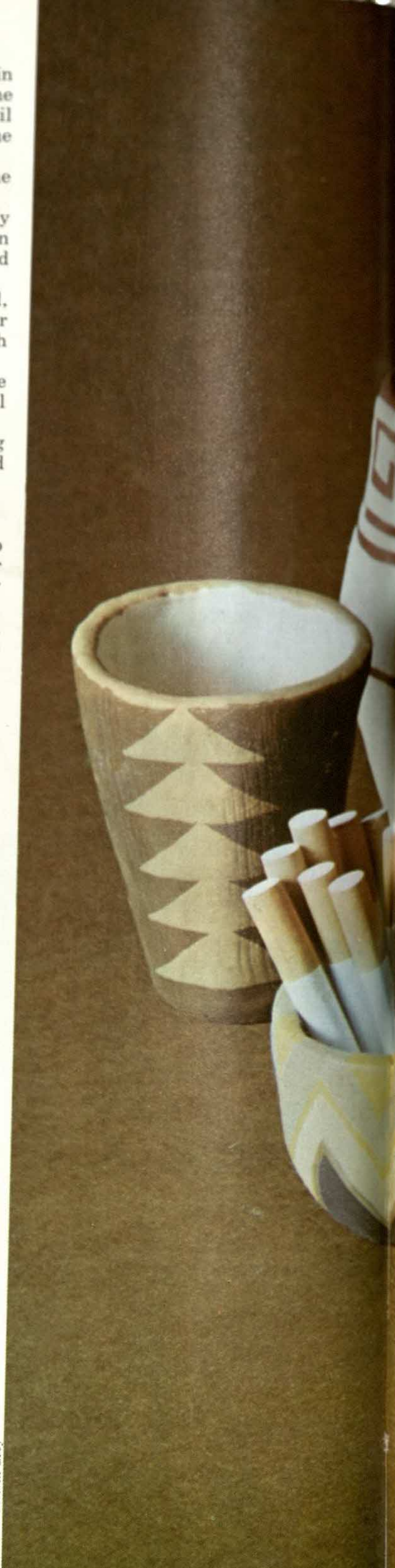
Self-hardening clay pots can also be decorated by impressing shapes into them at the semi-dry stage, to give a textured effect, or they can be varnished for a plain, shiny look.

If you are working with real clay, however, and the pot is to be fired, there is a variety of interesting decorative possibilities that do not involve the use of glaze.

The pot can be impressed when it is semi-dry, or it can be left until it is bone-dry and then incised.

This form of incised decoration is done by scratching the surface of the bone-dry clay with a fine pin or knife point. Designs can be geometric or flowing, and can look particularly intricate and delicate.

Whichever form of decoration you choose, aim to accentuate the basic shape of the pot by relating your design to it. Decoration should always compliment the pot and add extra interest.



Right: simple pinch pots, decorated with poster paints, make attractive containers. Designed by Shirley Brown. Textured pot with impressed pattern designed by Val Barry.

Melvin Grey

Macramé belts to make yourself

Yarn — macramé 2

Macramé is a fascinating craft which produces lovely, textured surfaces—ideal for belts and straps of all kinds. These belts, all made with variations of cording and flat knots, introduce a whole new range of designs. The pattern used for the first three belts can be made to appear different by the use of different colourways. This simple pattern and the more complex ones below can be made up in either finer or thicker yarn and used as shoulder straps for a dress or blouse, as an edging or braid for plain shirts, lampshades or curtains, as a strap for a watch or on its own as a decorative bracelet or as a wall hanging.

Each of the belts is made up of many small motifs, so it is easy to make the belts larger or smaller by either increasing or decreasing the number of motifs.

Macramé board

Although a macramé board is not essential, it is very useful if you are going to do lots of macramé. When working large areas of diagonal cording or picot edging, the pattern should be pinned into position to ensure even spacing; this is easily done on a board. Whether or not to pin throughout the work is mostly a matter of choice since you may have an accurate eye and be able to keep the angles even. But if in doubt pin the knot bearers in position.

A large board is most useful but, if you do small work, make one 30cm (12″) square in the same way.

To make a board 75cm x 50cm (30″x 20″)

You will need:

75cm x 50cm (30″x20″) piece of chipboard.

75cm x 50cm (30″x20″) piece of 12mm (½″) thick foam.

82cm x 57cm (33″x23″) piece of calico.

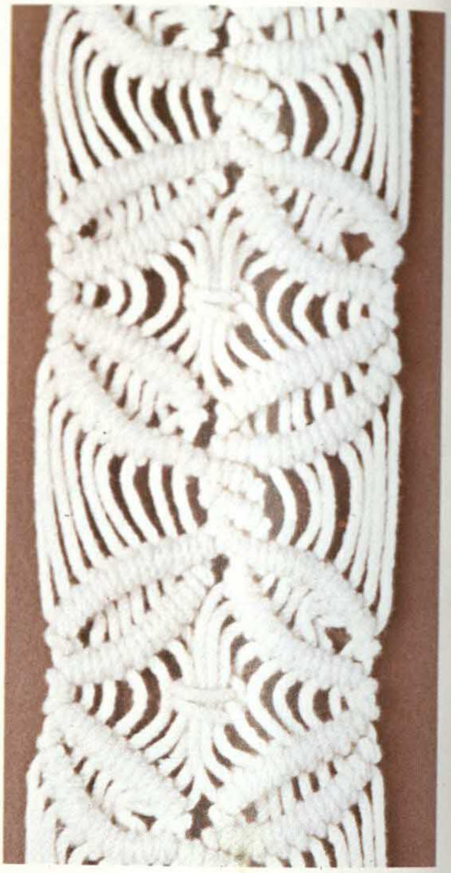
Drawing pins or staples.

☐ Place the chipboard on a working surface and place the foam on the board. Spread out the calico and invert the foam and board over the calico.

☐ Pin or staple the edges of the calico to the back of the board, stretching the material so it is smooth. The board is now ready to use.

This attractively textured belt is worked in double cording knots using Atlas American Cotton Twine.

Chris Lewis



This belt shows the effect of using twenty strands; instructions are given for sixteen strands to facilitate the colour combinations.

White belt and variations

The instructions are for a belt to fit a 60cm (25″) waist. To make the belt larger or smaller, increase or decrease the number of motifs. The motifs are 6cm (2½″) long and each motif requires about 30cm (12″) of the strands so the yarn can be measured fairly accurately for whatever size you wish to make.

You will need:

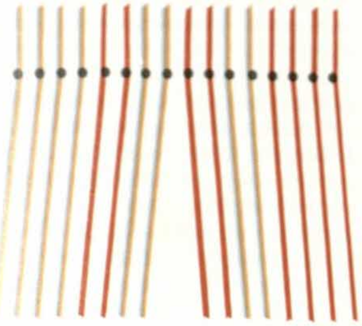
16 strands of yarn each 400cm (155″) long for 10 belt motifs, plus 30cm (12″) for the tassels at each end; total 460cm (179″) each.

☐ Pin the strands of yarn, 30cm (12″) from one end, close together to the board or secure them to a firm object (fig.1). The 30cm (12″) piece is for making the tassels afterwards.

To make the two-colour belt arrange the strands in the following order: 4 orange, 2 yellow, 2 orange, 2 yellow, 2 orange and 4 yellow.

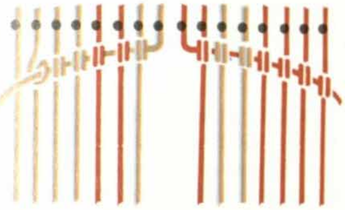
To make the three-colour belt arrange the strands in the following order: 4 green, 4 orange, 4 yellow and

1



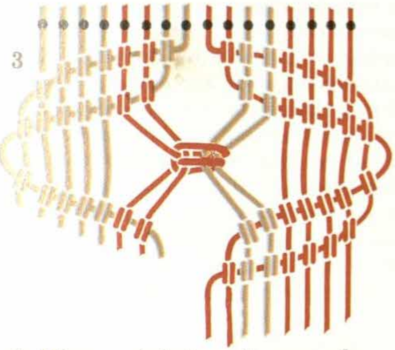
1. *This example shows how the strands are mounted for the two-colour belt.*

2



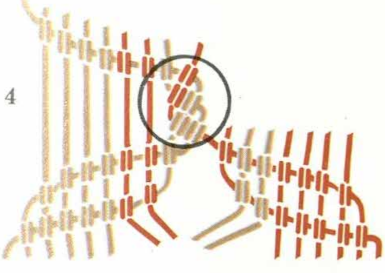
2. *Use the strand to the right of the centre as a knot bearer and then the strand to the left of the centre as a knot bearer.*

3

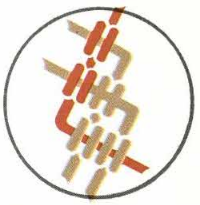


3. *Three petals have been made and the wheatsheaf effect is seen.*

4



4a



4. *The fourth petal is now complete. The strands that are used for the 'knot' in the centre can be clearly seen. The last two petals complete one pattern.*

Trevor Lawrence

4 green. The colours are given to tell you the sequence but, of course, you can use any colours you like.

☐ Use the strand to the right of the centre as a knot bearer and make double cording knots (Macramé chapter 1, page 177) from left to right with all the strands on the right.

Repeat on the left, knotting from right to left (fig.2).

☐ Again use the strand to the right of the centre as a knot bearer and make double cording knots with the strands from left to right, varying the distance between the cording to form a petal shape (fig.3). Knot the strand that was used as the first knot bearer over the present knot bearer, making 7 knots.

Repeat on the left, knotting from right to left, making 7 knots.

☐ To make the 'wheatsheaf' effect in the centre, hold together the 2 strands to the right of the centre with the strand to the left of the centre; these form the knot bearer. Make a loose vertical double cording knot with the second strand to the left of centre (fig.3).

☐ Return to the right edge and use the knot bearer used previously, bending it diagonally towards the centre. Make double cording knots over the knot bearer from right to left, stopping at the centre.

Repeat on the left.

☐ With the extreme right strand as knot bearer make double cording knots over it, working from right to left, again stopping at centre (fig.3).

Repeat on the left, knotting the previous knot bearer over the present knot bearer (fig.4).

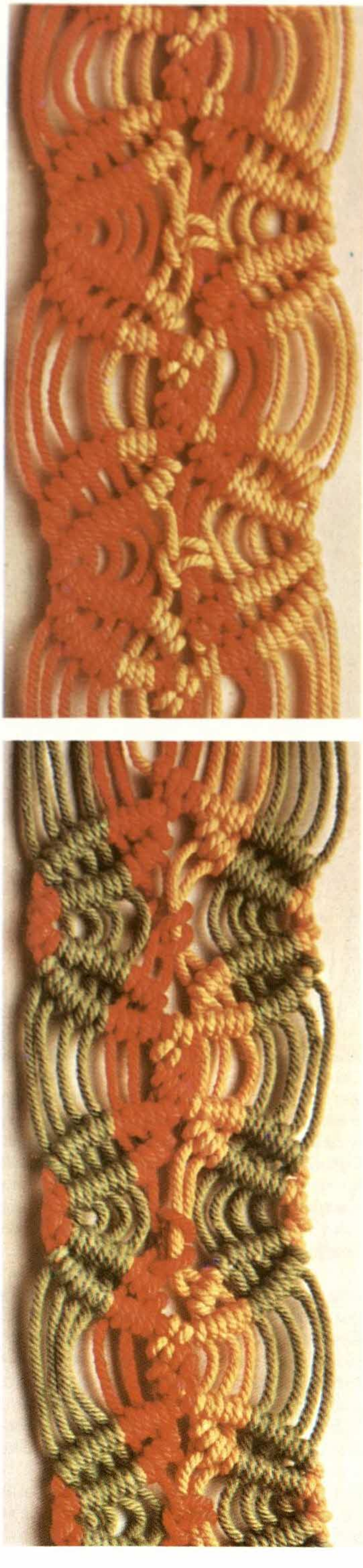
Use the same knot bearer and make a double cording knot over it with the strand to the right of the centre. Use this strand again and make a double cording knot, using the strand to left of centre as knot bearer. With the previous knot bearer make a double cording knot over the same knot bearer. Using strand previously to right of centre as knot bearer, make 2 double cording knots over it, using the two strands immediately to the right of it, (fig.4A). You have completed one motif.

When you start the next motif, on the right use the strand that was last used as the knot bearer as the knot bearer again and knot from left to right. On the left knot from right to left in the same way. You have started the first row of the next motif.

Make as many motifs as you require.

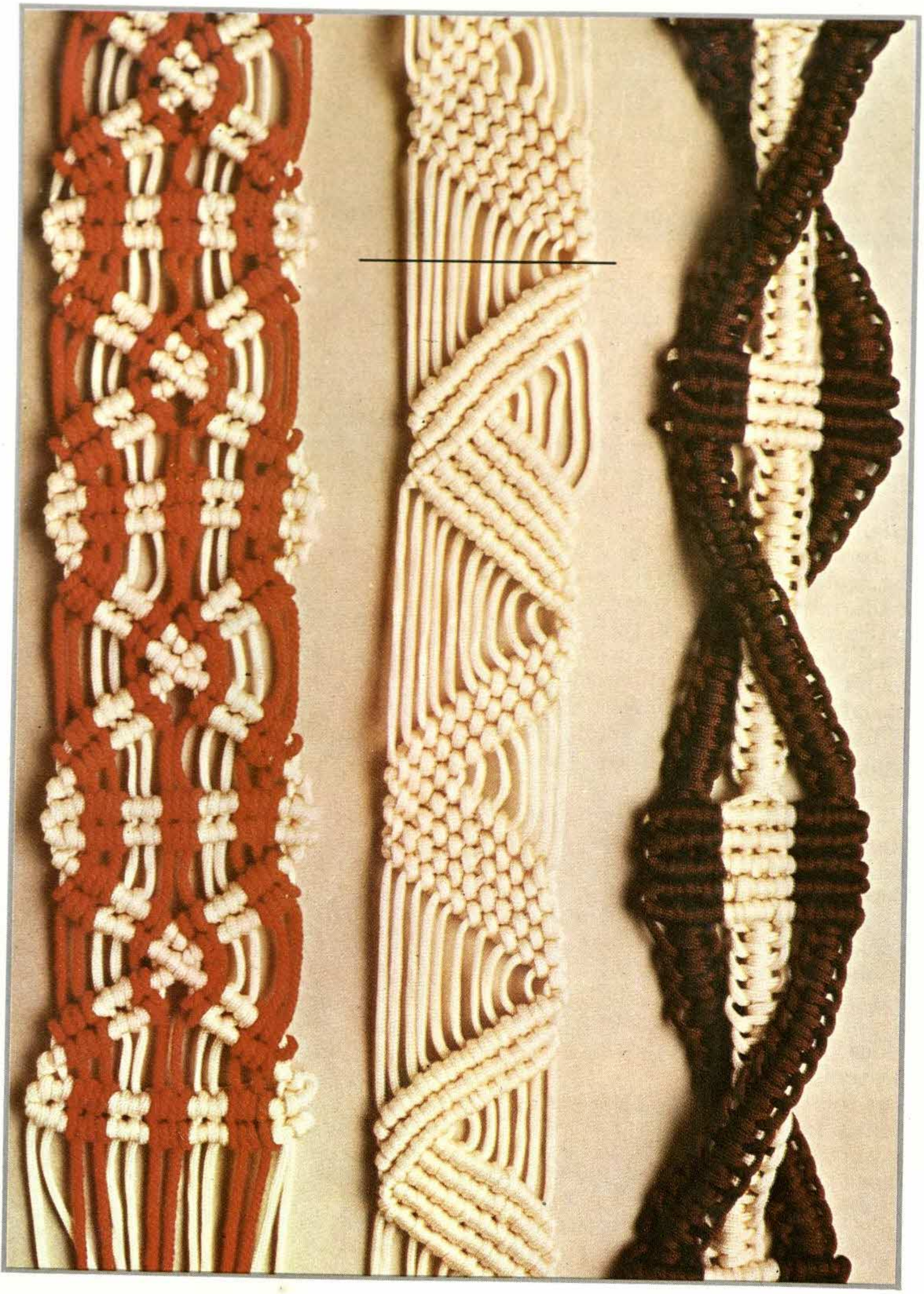
Finishing

To finish the white, two-colour and three-colour belts with braiding, use the



These belts, striped with colour, are made in the same way as for the white belt but they look quite different.

Alasdair Ogilvie



Alasdair Ogilvie

Left to right: two colour belt with a rich texture worked in double cording knots; a belt with an unusual woven effect (to follow the instructions for this belt start at the black line and work downwards); lightweight belt for wearing with a day or evening dress.
Designed by Shelley Churchman.

two centre strands and make a double cording knot with one over the other.
Divide the strands at the centre to make two groups. Divide each group into three subdivisions of 3,3 and 2 and plait (braid) to the end. Use one of the strands to make a double cording knot over the others to secure the ends. Trim the ends.
Repeat with the other group of strands and the strands at the other end of the belt. The belt is now complete.

Natural and orange motif

The instructions are for a belt to fit a 65cm (26″) waist. The motifs are about 5cm (2″) long. Each motif requires about 20cm (8″) of the strands so yarn can be measured fairly accurately for whatever size you wish to make.

You will need:
8 strands of natural and 6 strands of orange yarn each 300cm (120″) long for 13 belt motifs, plus 30cm (12″) for tassels at each end. Total 360cm (144″) each.
14 strands of natural yarn each 15cm (6″) long.

☐ Pin the strands of yarn, 30cm (12″) from one end, to the board, in the following order: 2 natural, 2 orange, 2 natural, 2 orange, 2 natural, 2 orange and 2 natural.

☐ Using one of the 15cm (6″) strands as a knot bearer make double cording knots over it, working from right to left (fig.5).

☐ Bend the knot bearer and lay it parallel to the cording. Make a second row of double cording knots over the knot bearer. The ends of the knot bearer are sewn to the back of the belt when it is completed.

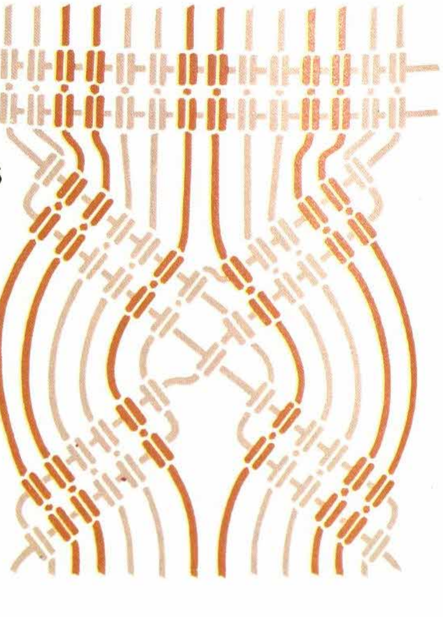
☐ Divide the strands in half and spread them apart slightly. Take the outside strand on the right and, using it at an angle of about 45° as a knot bearer, make double cording knots over it with the other 6 strands, working towards the centre.
With the outside strand on the left as a diagonal knot bearer make double cording knots over it, working towards the centre. Then cord the right knot bearer over the left one.

☐ Using the outside strand on the right as a knot bearer make 6 double cording knots over it. Keep the cording close to the previous row.
Repeat on the left, knotting the strand that came from the right over the left knot bearer.

☐ Using the strands on the right make double cording knots over the knot bearer that came from the left, maintaining the angle. On the left make double cording knots over the strand that came from the right, again maintaining the angle. Keeping close to the previous diagonal cording and with the strand to the right of the centre as knot bearer, make double cording knots over it from left to right.
Repeat on left working from right to left.
This completes one motif (fig.5).

Below: diagonal and horizontal cording knots are usually crossed over in this way—the knot bearer which came from the left passes to the right and the one from the right passes to the left.

5



☐ Lay another 15cm (6″) knot bearer across the strands and make double cording knots over it. Continue with another row of cording and the diagonal cording until the required number of motifs have been made. Finish with an extra double row of cording to make a neat finish.

☐ Trim the horizontal knot bearers to within 1.5cm (½″) of the edge of the belt. Using a needle and cotton, sew the raw ends to the wrong side of the belt so that they are securely held.

Natural coloured belt

The instructions are for a belt to fit a 60cm (24″) waist. The motifs are 15cm (6″) long. Each motif requires about 38cm (15″) of the strands so the yarn can be measured fairly accurately for whatever size you wish to make.

You will need:

12 strands of yarn each 152cm (60″) for 4 motifs plus 30cm (12″) for each tassel. Total 212cm (84″) each.

☐ Pin the strands to the board.

☐ With the outside right strand as a diagonal knot bearer make double cording knots over it, working from right to left at an angle as shown.

☐ With the outside right strand as knot bearer make another row of cording close to the previous one. Repeat once more making a total of 3 rows.

☐ The 5 strands on the left will now be the knot bearers. Knot the sixth strand from the left over the knot bearer on the left of it. Hold the knot bearer at the same angle as the previous rows of cording but in the opposite direction. Knot the other strands to the right of it over the knot bearer.

Knot the strands over the fourth knot bearer from the left, then over the third knot bearer and so on, to make 5 rows of cording from left to right.

The free strands of yarn linking each group of diagonal cording could be used as carriers for beads.

☐ The reverse cording is achieved by turning the work over and repeating the above motif on the 'wrong side'. When the motif is complete turn the work over again so that you are working on the right side again. Consequently, the back of the cording knots show on the right side and give a pleasing woven effect. One motif is complete.

Make motifs until the belt is the required length.

If you wish to leave the ends free as a fringe, on the wrong side carefully sew through the knots to secure them.

Aubergine and natural motif

The instructions are for a belt to fit a 72cm (28″) waist. The motifs are 9cm (3½″) long. Each motif requires six strands about 48cm (19″) long and six about 17cm (7″) long, so the yarn can be measured fairly accurately for whatever size you wish to make.

You will need:

4 strands of aubergine and 2 strands of natural yarn each 384cm (152″) long plus 30cm (12″) for the tassels at each end; total 444cm (176″) each; 4 strands of aubergine and 2 strands of natural 136cm (56″) long plus 30cm (12″) for the tassels at each end; total 196cm (80″); to make 8 belt motifs.

9 strands of natural each 30cm (12″) long.

☐ Pin the strands to the board in the following order: 1 long strand, 2 short strands and 1 long strand of aubergine; 1 long strand, 2 short strands and 1 long strand of natural and 1 long strand, 2 short strands and 1 long strand of aubergine.

☐ Using one 30cm (12″) strand as a knot bearer, with the raw end on the left, make double cording knots over it working from left to right.

☐ Bend the knot bearer and lay it parallel to the cording. Make another row of double cording knots over the knot bearer from the right to left. Continue with 3 more rows of cording, using the extra strand as a knot bearer. The ends from the knot bearer are sewn to the back of the belt.

☐ With the left group of 4 strands make a chain of 15 flat knots (count the loops on the left side of the chain).

☐ With the centre group of 4 strands make a chain of 14 flat knots. Repeat with the remaining 4 strands, making a chain of 15.

Bring the left chain to the right side. Lay the centre chain over it, bring the right chain over the centre chain and place it on the left side. One motif is complete.

☐ Using a 30cm (12″) strand as a knot bearer make 4 rows of cording and then chains of 15, 14 and 15 flat knots. Continue in this way, alternately making 5 and 4 rows of cording until the belt is the required length. Finish with 5 rows of cording.

Trim the horizontal knot bearers to within 2.5cm (1″) of the edge of the belt. Using a needle and cotton, sew the raw ends to the wrong side of the belt so that they are securely held.

Belts with a buckle

☐ Double the length of the strands and halve their number. Mount the yarn on to the vertical buckle bar by folding it in half and passing the ends through the loop, and either work the chosen pattern from this point or make the mounting very firm with a row of cording before you begin the pattern. Finish off as below.

Finishing without tassels

☐ With the left outside strand as the knot bearer, make double cording over it towards the centre. With the right outside strand as knot bearer make double cording knots, working towards the centre. Make a double cording knot with the right knot bearer over the left knot bearer.

☐ With the left outside strand as knot bearer make one double cording knot over it.

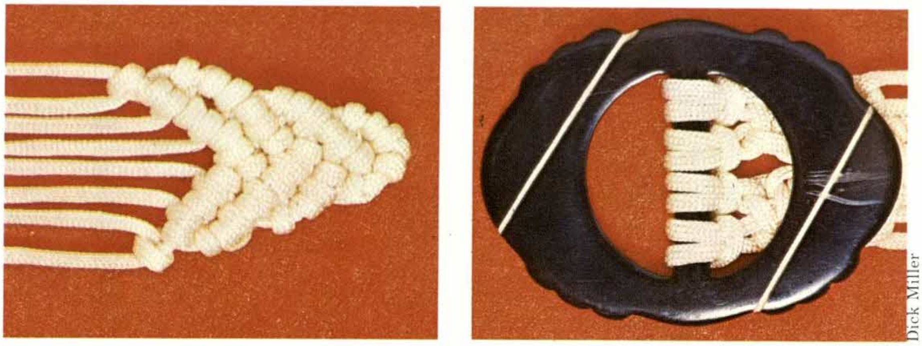
☐ Pin the strand you have just used to make a knot out of the way. Continue cording with the other strands on the left towards the centre.

Repeat on the right.

☐ In the centre make a double cording knot with the left knot bearer over the right knot bearer.

☐ Ignore the strand pinned out of the way. With the outside right strand as knot bearer, cord over it to the centre. Repeat on left. Make a double cording knot with the right knot bearer over the left knot bearer. Pin the two outside strands out of the way. This finish has an interlocking diagonal effect because the knot bearers are knotted alternately over each other.

Continue in this way until only 2 strands remain and the rest are pinned out of the way. Work the ends into the wrong side of the belt by pulling them through the loops at the back of the pattern. Trim the ends and dab them with a little clear glue to secure. For additional strength, use a fine needle and yarn and oversew the unglued ends to the back of the pattern.


Dick Miller

As each row is worked the strands at either end are left free. The ends are glued and then sewn to the back of the belt to make a neat finish.

Working with hexagons

Cloth — patchwork 3

The regular hexagon, known as the honeycomb, with all its sides equal in length, is probably the best known of all patchwork shapes. It is extremely simple to use and the wide angles at the corners mean that there is no difficulty in making a neat fold when turning the hem round the patchwork paper.

Seven hexagons joined together make a single rosette which can be used for a decorative motif. Or you could join several rosettes together to make up a larger piece.

When using a patchwork shape for the first time it is wise to choose something small and quick to make, and instructions are given at the end of this chapter for making a simple but pretty tea cosy with a hand sewn rosette of hexagons as a decoration. Instructions are given also for making a coffee cosy from patchwork fabric using larger hexagons which can be joined together by hand or machine.

Templates

You will need to use templates for the hexagons and these are obtainable prepackaged, in a wide range of sizes, from most good crafts shops. The package usually contains a solid metal template for cutting the papers and a larger window template which is used for cutting the patches. The window template has a clear centre panel which is the actual area of the finished patch and a solid band, approximately 6mm ($\frac{1}{4}$″) wide, around the edge which is the seam allowance. The window template is extremely useful when cutting the patches because, when it is laid on the fabric, you can see what the finished patch will look like and you can choose which part of a pattern you want to appear on the patch.

It is often possible to buy the solid metal templates separately and, in this case, you can make your own window template from heavy card (mounting board). Draw the solid shape very accurately with a sharp pencil on to the card. Measure 6mm ($\frac{1}{4}$″) all round the outline to make a larger replica of the shape, then carefully cut out both outlines with a scalpel or craft knife. The size of the hexagon is usually given as the length of one of its sides—a 4cm ($1\frac{1}{2}$″) hexagon has sides of that measurement. This is a good size for a beginner to use.

A trace pattern for hexagons is given on the opposite page and you can make your own template from this by carefully tracing the shape on to heavy card and cutting it out carefully.

Hand sewn hexagons

Begin the patchwork by planning the design you wish to use, then cut out the papers and patches. Patches should be cut with two of the parallel sides on the straight of grain. Decide whether they are to be cut along the warp or the weft and cut all patches similarly.

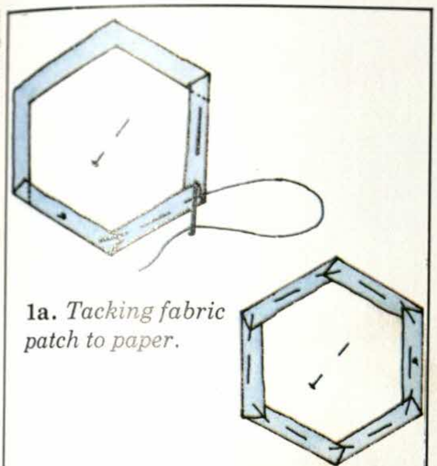
Make each patch by pinning the paper patch to the centre of the wrong side of the fabric patch, then fold over the turnings and tack, making one stitch in the centre of each side and one stitch over the fold at each corner. Finish off by making an extra stitch on the first turning (fig.1a). Remove the pin.

Silks and some cottons can be permanently marked by pins and needles. On these fabrics it is best to stick down the seam allowances with masking tape and sew the corners through the seam allowances only (fig.1b).

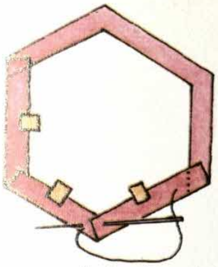
Arrange the patches into a design, making sure that the warps or wefts run in the same direction. Then begin to join them. Place two with right sides together and with tiny, even stitches oversew along the full length

Camera Press

An unusual use for patchwork: the back of this chair is made from a piece of patchwork fabric mounted on to strong canvas and the seat is covered with a cushion in the same fabric.



1a. *Tacking fabric patch to paper.*



1b. *Sticking patch in fine fabric to paper with masking tape.*

of one edge, as for squares and rectangles. Join a third patch into the angle made by the first two and continue sewing the patches together until you have completed a rosette, or the area of patchwork you need.

When all the patches have been sewn together press the patchwork on the wrong side with a warm iron. If the right side needs pressing, remove all tacking but leave in papers so that the turnings do not leave a mark. Press gently on the right side. Remove papers. If you are mounting a rosette on to another fabric or adding a border to the edge of your patchwork, tack round the outside edge of the rosette to keep the turnings in place. Pin the patchwork into position and, using tiny stitches, slip stitch all round. Remove the tacking and press lightly to finish.

Machine sewn hexagons

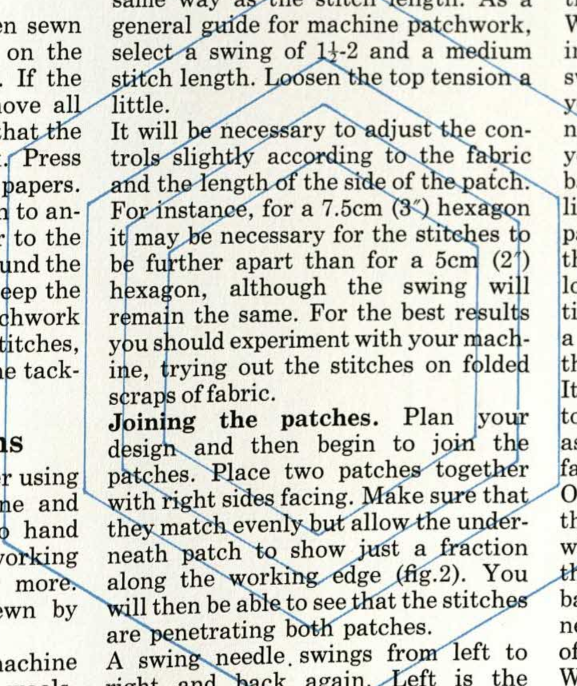
Hexagons can be joined together using a swing needle sewing machine and this is a speedy alternative to hand stitching, especially if you are working with patches of 4cm (1½″) or more. Smaller patches are better sewn by hand.

Many fabrics are suitable for machine patchwork, eg cottons and wools, silks, needlecord and velvets and fine tweeds.

Prepare the patches as for hand sewing.

Needles and thread. Use a No.14 machine needle (continental No.90). It will be necessary to renew the needle fairly frequently as patchwork papers tend to blunt the point. Use a fine mercerised cotton, like Sylko, or synthetic thread, No.50 or 60, according to the fabric of the patchwork. Choose a thread of a suitable colour—white is good for lighter colours and black for darker shades. Black thread is better than white when joining light colours to dark ones as it does not show so much. Alternatively, you can match the thread to one of the basic colours in the patchwork.

Above: patchwork cushion made from a kit designed by Harriet Wincote.
Below: Trace pattern for hexagons.



It is important to use the same colour and type of thread throughout.

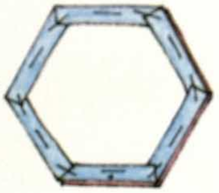
Stitches. On swing needle machines the 'swing' of the stitch (that is, the stitch width) can be adjusted in the same way as the stitch length. As a general guide for machine patchwork, select a swing of 1½-2 and a medium stitch length. Loosen the top tension a little.

It will be necessary to adjust the controls slightly according to the fabric and the length of the side of the patch. For instance, for a 7.5cm (3″) hexagon it may be necessary for the stitches to be further apart than for a 5cm (2″) hexagon, although the swing will remain the same. For the best results you should experiment with your machine, trying out the stitches on folded scraps of fabric.

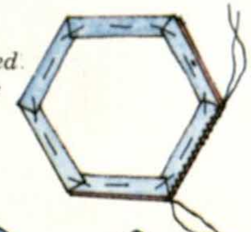
Joining the patches. Plan your design and then begin to join the patches. Place two patches together with right sides facing. Make sure that they match evenly but allow the underneath patch to show just a fraction along the working edge (fig.2). You will then be able to see that the stitches are penetrating both patches.

A swing needle swings from left to right and back again. Left is the starting point and you must always start the needle ready to swing to the left.

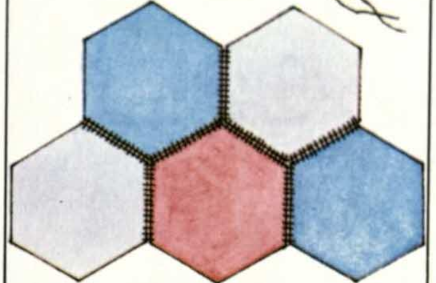
Place the patches under the machine needle and turn the balance wheel towards you so that the needle pierces the top right hand corner of the pair of patches. Lower the presser foot and stitch—slowly at first. At the left hand swing the needle should pierce the fabric and papers of the two patches and at the right hand swing the needle should pass just beyond the edges of the patches.



2. *Patches for machine joining.*



3. *A finished seam before tying off.*



4. *Front of a finished piece of machined patchwork.*

When you come to the end of the working edge, make sure that the needle swings to the right for the last stitch—you will then be ready to swing the needle back to the starting point when you begin the next seam. Give the balance wheel a half turn towards you, lift the presser foot and draw out the patch, leaving at least 5cm (2″) of thread before cutting off (fig.3). The long ends are essential as they must be tied off to secure the stitching. Use a double knot to tie off to prevent the threads becoming tangled.

It may be necessary with some fabrics to 'help' the machine over the corners as there are several thicknesses of fabric to penetrate.

Open out the seams and you will see that the patches are joined together with firm, even stitches—straight at the front (fig.4) and criss-crossed at the back. Add as many patches as you need, remembering to keep the straight of grain running in the same direction.

When the work is large enough, take out the tacking threads. These may have been caught by the needle but will pull away easily.

Machine patchwork should be pressed well with a steam iron and pressing cloth.

If you are making a rosette for appliqué, slip stitch it in place.

Leather, suede and PVC coated fabrics are particularly good because they will not fray and so no turnings are needed. You can simply cut the patches to actual size without a seam allowance, butt the edges together and stitch them together on the right side using a swing stitch (fig.5).

Tea and coffee cosies

For the rosette on the tea cosy 3cm (1¼") hand sewn hexagons were used and for the coffee cosy two pieces of machine sewn patchwork made up of 4cm (1½") hexagons.

You will need:

For the coffee cosy:
45cm (½yd) heavily patterned floral cotton lawn (colour 1).
35cm (⅜yd) blue cotton lawn (colour 2).
45cm (½yd) lightly patterned floral cotton lawn (colour 3).
35cm (⅜yd) white cotton lawn for lining.
2 pieces of synthetic wadding 40cm x 33cm (15"x13").

For the tea cosy:
35cm (⅜yd) plain blue cotton lawn.
45cm (½yd) heavily patterned floral cotton lawn for frill and six patches
A 10cm (4") square lightly patterned floral lawn for centre of rosette.
35cm (⅜yd) white cotton lawn for lining.
2 pieces of synthetic wadding 33cm x 24cm (13"x9").

Making the coffee cosy

☐ Make up 4cm (1½") patches as follows: 28 colour 1; 24 colour 2; 32 colour 3.

☐ Make a paper pattern for the cosy using fig.6 as a guide. Mark on the pattern the shape and colour of the patches.

☐ Arrange patches for the front of the cosy on this pattern, trimming patches to fit the outline and opening out the seam allowances on patches at the edge of the pattern.

☐ Stitch the patches together, then make a back section in the same way.

☐ Cut two sections of lining from the paper pattern, but make the lining 2.5cm (1") shorter and then trim off 6mm (¼") all round the outer edge (this ensures a smooth fit inside the outer cover).

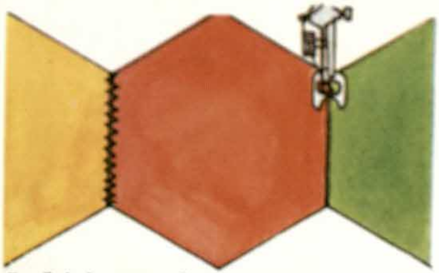
☐ Cut two sections of synthetic wadding the same size as the lining.

☐ Place the two patchwork sections of the cosy with right sides together and tack around the outer edge. Machine stitch 1.5cm (½") in from this edge. Trim turnings to 9mm (⅜").

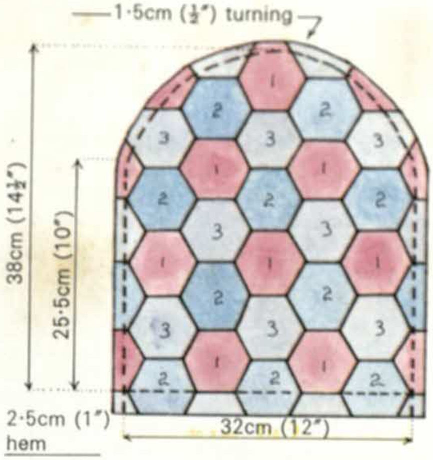
☐ Turn through to the right side, then turn in a 9mm (⅜") turning on the bottom edge and press the cover.

Pretty tea and coffee cosies—either would be an ideal first make in hexagon patchwork for a beginner. Designed by Heather Mingay.

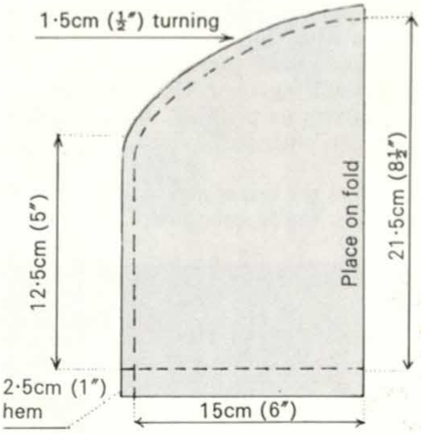
Martin Chaffer



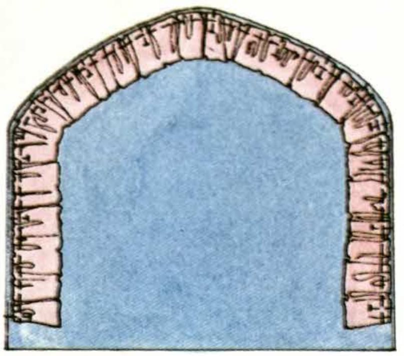
5. *Joining non-fraying patches on the right side of the work.*



6. *Pattern for coffee cosy showing positioning of patches.*



7. *Pattern for half of one side of tea cosy. Cut two.*



8. *Gathering thread on frill pulled up to fit the tea cosy cover and pinned in position.*

☐ Place lining sections with right sides together and place one piece of wadding outside each piece of lining. Tack and stitch the four layers together around the outer edge, 1.5cm (½") from the edge. Do not turn through.

☐ Trim away edge of wadding as close as possible to the stitching and trim seam allowance on outer edge of lining to 6mm (¼").

☐ Place lining inside the outer cover, with wadding in between, so that the bottom edge of the lining and wadding is 1.6cm (⅝") above the bottom edge of the outer cover. Tack lining to cover along bottom edge.

☐ Finally turn 1.6cm (⅝") along bottom of outer cover up on to lining and slip stitch into place. Remove tacking.

Making the tea cosy

☐ Make up 3cm (1¼") patches as follows: 6 heavily patterned floral and 1 lightly patterned floral.

☐ Make patches into a rosette with the lightly patterned one in the centre.

☐ Using fig.7 as a guide make a paper pattern for the tea cosy and cut out twice in blue fabric.

☐ Cut out two pieces of lining using the same pattern, but make the lining 2.5cm (1") shorter and then trim off 6mm (¼") all round the outer edge.

☐ Cut out two pieces of synthetic wadding from the pattern the same size as the lining.

☐ Cut two strips of heavily patterned fabric 15cm x 90cm (6"x36") for frill.

☐ Place strips with right sides facing and stitch together along one short edge, taking a 6mm (¼") turning. Press seam open.

☐ Fold strip in half lengthways, right sides together, to make a long strip 7.5cm (3") wide.

☐ Stitch through the double thickness at each short end, making 6mm (¼") seams. Trim corners, turn through and press.

☐ Run a gathering thread along the long raw edges of the strip, 1.5cm (½") in from the edge, through both thicknesses.

☐ Place frill to right side of outer edge of one blue cosy piece, with raw edges together and folded edge of the frill towards the middle of cosy piece.

☐ Pull up gathering thread to fit the cover, leaving 2.5cm (1") of the cover free at the bottom edge on either side. Pin into place (fig.8) and tack.

☐ Place the other blue cover piece, right side down, on to the first piece, enclosing the frill. Tack and machine stitch the cover sections together around the outer edge 1.5cm (½") from the edge. Trim turnings to 9mm (⅜").

☐ Finish in same way as coffee cosy.

☐ Stitch rosette to centre of one side.

Designing with bought stencils

Stencils are one of the easiest ways to paint pictures or do lettering on surfaces. Even if you can't draw you can be assured of getting a clear, professional looking image and the decorating possibilities are enormous. Usually a sheet of brown coated paper with a cut-out design, a stencil is really a sort of negative image since the shape you wish to paint has been cut out, leaving a crisp outline of it. By putting the stencil against the surface on which you want to paint the image, you automatically mask out the area which should not receive paint and leave free the area which should. It is by painting this area, making sure your brush covers the entire free surface, that the image is imprinted. When the stencil is lifted your picture or lettering will be neatly visible on the object or paper beneath.

Materials

Ready cut-out stencils can be bought in toy shops and from artists' suppliers. In range, these stencils may be somewhat limited but with a little ingenuity they can be combined and adapted to produce attractive, colourful results.

To begin stencilling you will need, as well as the stencils you have chosen, the right kind of paint for your surface. Another essential is masking tape with a low-tack adhesive. It can be used to fix the stencil in position and it will not mark the surface on which you are painting when it is peeled off.

Brushes. You should also have at least two stencilling or stippling brushes, one for light and one for dark colours.

Sometimes a piece of plastic sponge can be used instead of a brush.

Stencil kits, complete with stencils, brushes and watercolours can be bought.

About paint

Water-based paints, including artists' watercolours, acrylic polymer paint and poster paint can all be used for stencilling, but these should be used as dry as possible. After loading the brush with paint, blot it on a rag before stencilling to remove excess liquid.

Canisters are one of the many glass surfaces that can be stencilled.

Acrylic polymer paints work extremely well if used undiluted for stencilling and have the advantage of becoming waterproof on drying.

In many cases, especially on hard surfaces, they are best applied with a small piece of a close-textured plastic sponge. This sponge material is very cheap and a new piece may be broken off for each new colour.

Poster paint, again undiluted, may be employed in the same way. If it is used on wood the application of several coats of polyurethane clear varnish, after the paint is quite dry, will render it waterproof and hard-wearing as well as increase the brilliance of the colours.

Artists' watercolours are really only suitable for use on paper.

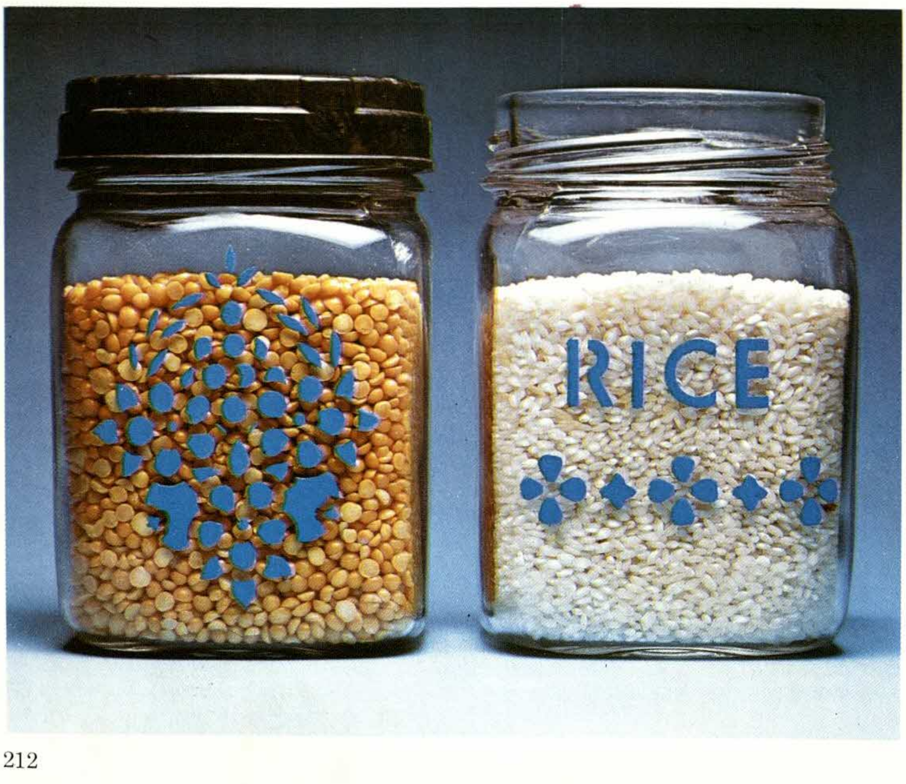
Artists' oil paints are not found to be very satisfactory. On wood a halo of slightly tinted oil tends to seep out around the design.

Enamels are also rather disappointing when stencilled with a sponge or brush. They are rather liquid and must therefore be applied very sparingly. By this method one cannot achieve the depth and brilliance of colour normally associated with enamels. The exception, however, is the type of enamel paint available in an aerosol spray—such as paint for motor cars. Follow the instructions on the can and spray, using several light coats rather than one thick coating. Each application dries in a few minutes. This type of paint may be used with success on non-absorbent surfaces such as glass. It becomes hard after about a week.

Plastic surfaces such as table mats, coasters, trays and mixing bowls can be treated in this way. When using spray paint the stencil must be firmly taped against the surface as the fine spray can penetrate under the tiniest gaps to an amazing degree. Sometimes, of course, this shadowy effect, where the spray has crept under the stencil, can give a certain charm.

There are certain paints intended specifically for painting on glass and china but most of these are too liquid for application by stencil.

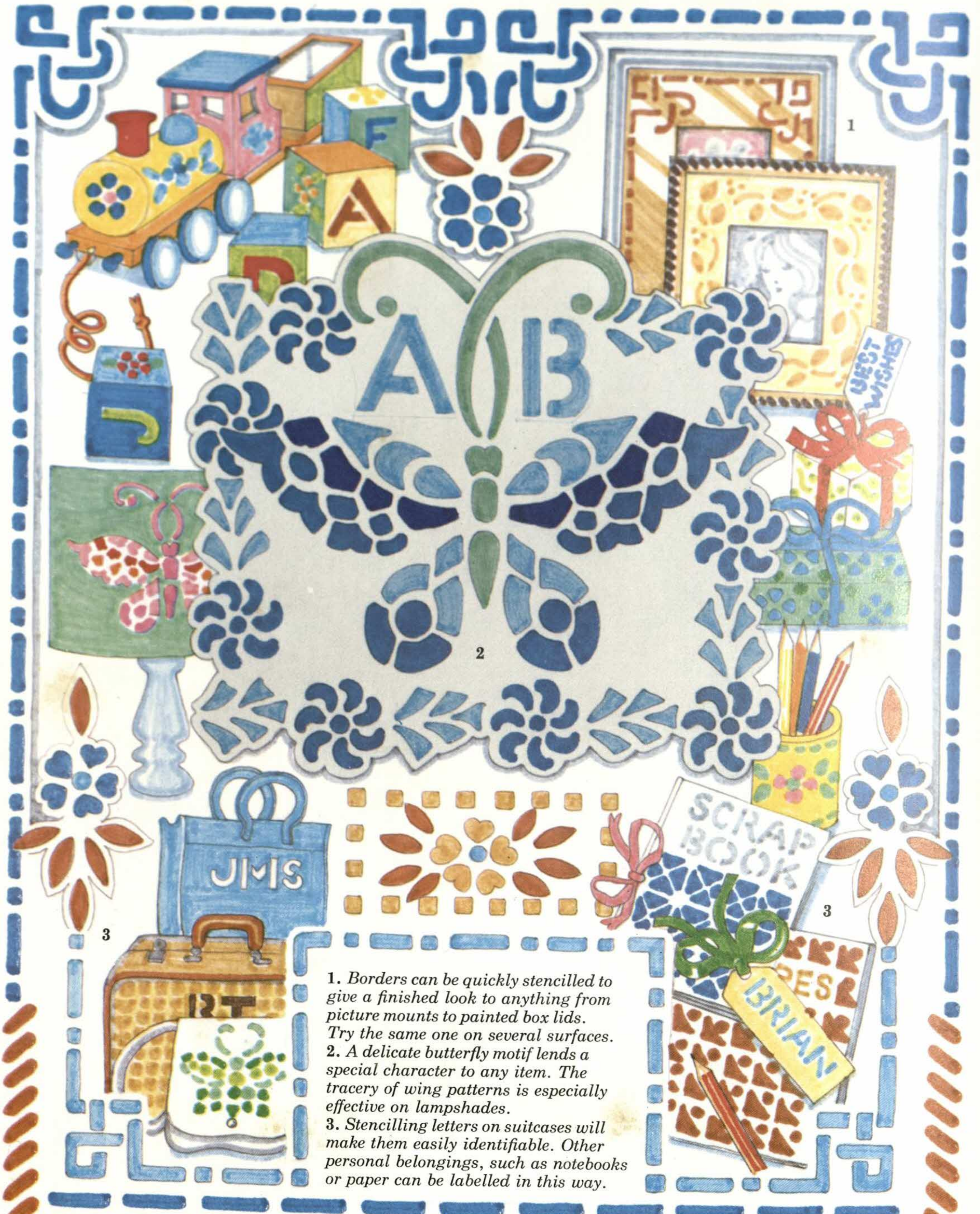
Sari relief colours, originally intended for the raised decoration on Indian saris, may be successfully stencilled on to glass and pottery. These should be used straight from the tube or diluted with a trace of copal varnish. Being oil-bound, they take rather a long time to dry on a surface



Stencils quickly transform any surface. You can buy ready made stencil motifs that produce a variety of effects when used on different surfaces—wood, glass, metal, paper and many others.

Steve Bicknell

Cobalt
Tint
Poster
Red



1. *Borders can be quickly stencilled to give a finished look to anything from picture mounts to painted box lids. Try the same one on several surfaces.*
2. *A delicate butterfly motif lends a special character to any item. The tracery of wing patterns is especially effective on lampshades.*
3. *Stencilling letters on suitcases will make them easily identifiable. Other personal belongings, such as notebooks or paper can be labelled in this way.*

Joy Simpson

which is non-absorbent, especially if the atmosphere is damp. The manufacturers advise natural drying (and patience) as heating may cause the paint to craze.

Masking tape

Masking tape serves a double function. It is used to hold the stencil in place on the surface and it also covers those parts of the stencil pattern which you do not wish to print—either because you don't wish to use that part at all or because you want to stencil those areas later in a different colour.

Multi-coloured designs are achieved by blocking out all areas that do not take the particular colour you are applying at the time. Later you mask the areas where you have applied the first colour and unmask the parts to receive colour.

The flower pattern on the fête poster uses the design with the flower in red and the stalk and leaves in blue. While stencilling the red, the blue parts were masked out and vice versa.

Double-sided adhesive tape. By applying double-sided adhesive tape to the underside of a stencil which you are about to apply to a hard surface, the outline can be more securely taped down. This is especially useful when using a spray paint or when applying a design to a curved surface, such as a glass, since the centre parts of the stencil stand away from the surface.

Lettering

When stencilling lettering rule a pencil line on the paper where the base of the letters will come. In the case of a material like glass, as with the glass storage jar, attach a strip of masking tape to mark this line. It can be removed later. Rule lines on the stencil at the base of the letters to the outside edges of the stencil. When positioning the letters match the lines on the stencil to those on the paper. This will enable you to get the letters straight. Fig. 4 shows how this is done.

The spacing between the letters must be done by eye. If in doubt, you can lightly pencil the letter through the stencil before committing yourself to paint. Borders may also be lined up in this way.

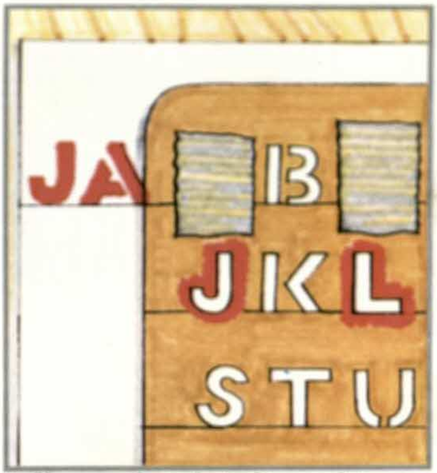
When stencilling letters from a stencil sheet, temporarily obscure the letters either side of the one you are actually printing as this avoids unwanted marks. Use masking tape or small pieces of paper held over the letters.

Cleaning up

If you should get an unwanted mark on your work it may be removed by gentle scraping with a very sharp blade, such as a razor blade.

To print tiny motifs, such as the flower on the egg cup and the napkin ring, it may be necessary to cut out that part of the stencil from the main sheet to make it easier to handle and stick down to the object being stencilled.

To clean a stencil wipe it gently with a rag dampened with the solvent appropriate to the type of paint you are using. In some cases, as with the spray-on enamel or acrylic polymer paint, the stencil need not be cleaned. The thin layer of paint in fact strengthens the stencil and the paint will not taint the other paints that may be used later.



4. *Use pencil marks to line up letters.*

Two colours can be used for decoration.

Right: fêtes, school events and meetings can be advertised by stencilling posters.

Steve Bicknell

Silver-plated wire jewelry

A great advantage of plating is that you can use a cheap wire and then, if the results of your work are successful, you can have it silver-plated.

Silver-plating is not easy to do at home but most silversmiths or jewellers will do it for you at a reasonable price.

This obviously makes the possibilities of working with wire more interesting as it expands the scope of the material. It lends itself particularly well to jewelry as you can use any wire such as copper, brass or tinned copper to make brooches, ear-rings, pendants and bracelets. Once the object has been finished satisfactorily, perhaps after a number of attempts to work out your own designs, you can have it silver-plated to enhance the appearance with a very professional finish.

Silver

Silver, when new or polished, has a reflective surface but, if left for a period of time, it will oxidize naturally and will need to be polished to remove the oxidization and restore the shiny surface. If the silver is covered with metal varnish this will not happen.

Oxidization

Oxidization is a process which can be speeded up with an oxidizer if you particularly want an antique look. It can be very effective as the more prominent outer surfaces of the silver can be lightly polished to shine the surface, leaving the recesses darker.

An oxidizer is applied with a sable-haired brush or by immersing the object in the oxidizer. The oxidizer can be bought or mixed at home by diluting potassium sulphide with water. If you mix your own, follow the instructions supplied with the potassium sulphide. If the mixture is too strong the oxidization might be patchy or flaky so, if you are in any doubt, make a weak mixture and immerse the object and check the results—you can always strengthen the mixture.

Before oxidizing anything make sure it is clean and free of grease by washing and scrubbing it in hot soapy water and drying it off with a clean cloth.

Filing

Plating also means that any imperfections, like indentations caused by pliers, can be removed by filing them down. But while the plating will hide the filing, it will not hide indentations as it is too thin.

You can also use a file to make the shape of the wire more interesting by giving it a flat surface, varying the final appearance by filing down different parts of the design.

To the layman all files might appear to be similar. They are not; some files give a flat surface, others give a groove, or even a series of grooves. A file must only be used for doing what it was made to do. So do not confuse files used in carpentry with metal files. All you will need for the rings is a hand file 152mm (6″) long. Needle files can be used for finer work and grooves but they are not essential. The file only removes metal on the forward stroke or when you are pushing the file away from yourself.

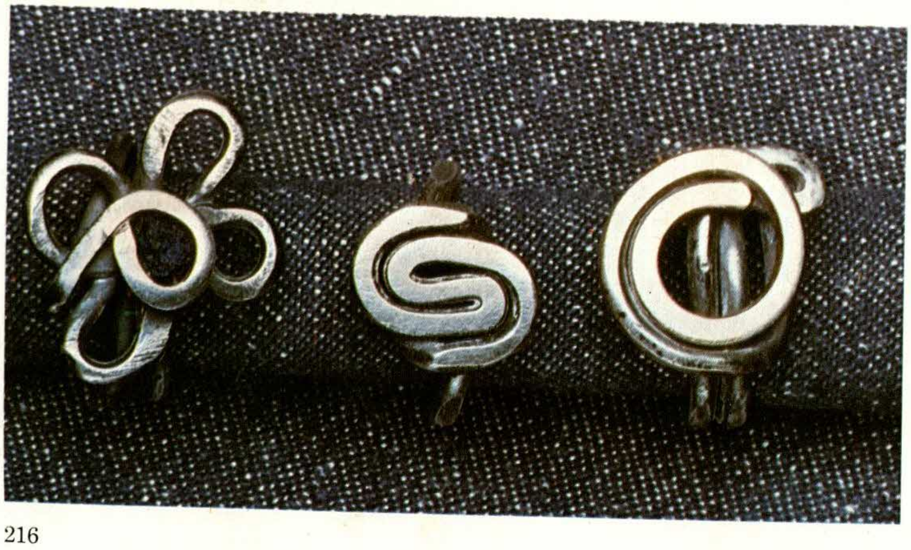
Alasdair Ogilvie

A ring stick makes it easy to repeat rings of a particular size.

Ring sticks

A ring stick is a tapering cylinder with various sizes for rings marked on it. If you are making a large number of rings it is useful as you will be able to make a ring the exact size you require and duplicate it any number of times.

Simply select the size you want on the


Chris Lewis

These three rings are made from copper wire which has been silver-plated after the rings were completed. All rings shown designed by Gad Charny.

stick and work the wire around it once or twice as required.

As an alternative, you may be able to find a piece of dowel—or even something like the handle of a kitchen tool—which is the right thickness.

To make silver-plated rings

The rings illustrated are made of copper wire. The surfaces were filed down before silver-plating and the plated rings were then oxidized.

The stones were glued on to the finished rings.

If you are going to use stones in the rings then make up the designs to accommodate the stones. That is, bend the wire in such a way that the stone appears to fit naturally in its setting once the ring is complete. Make any adjustments to the ring to hold the stone comfortably before plating. It is not recommended to do so once it has been silver-plated as you might damage the plated surface.

It is economical to make jewelry like this as you can always discard any items that are spoilt and have only the successful ones plated.

You can experiment with various designs and, as you become more accomplished, you will find ways of starting the rings with the design and then making the coils to fit the finger afterwards. But this is only recommended once you have gained some expertise and want to make more intricate jewelry.

These rings are suitable for men and women. You can design your own shapes and sizes although generally the more intricate designs look better on women.

You will need:

Copper wire 1.8mm (gauge 13).
Round-nosed pliers.
152mm (6″) hand file.
Stone, if required, and suitable glue.
Diagonal wire cutters or end cutters.
Ring stick or any cylindrical object the same size as the ring you wish to make.

The length of wire will depend on the design you make and also on whether you make a single or double coil to go round the finger. For a single coil ring you will need about 5.5cm (2¼″) and twice that for a double coil, plus the length of wire required for the design. Always cut the wire slightly longer than you will need as you can always cut off the excess.

☐ Cut the required length of wire and, holding one end to the cylinder, with your fingers work it around once or twice as required. Bend the wire far enough so that the end does not stick out (fig.1).

☐ Using the round-nosed pliers continue bending the wire to form the design you have in mind.

☐ To complete the design always bend the end of the wire underneath a previous curl or let it end where its line will flow naturally into the overall design. Cut off any excess wire.

☐ Using the hand file, file this end so that it will not cut into your finger or catch on clothing.

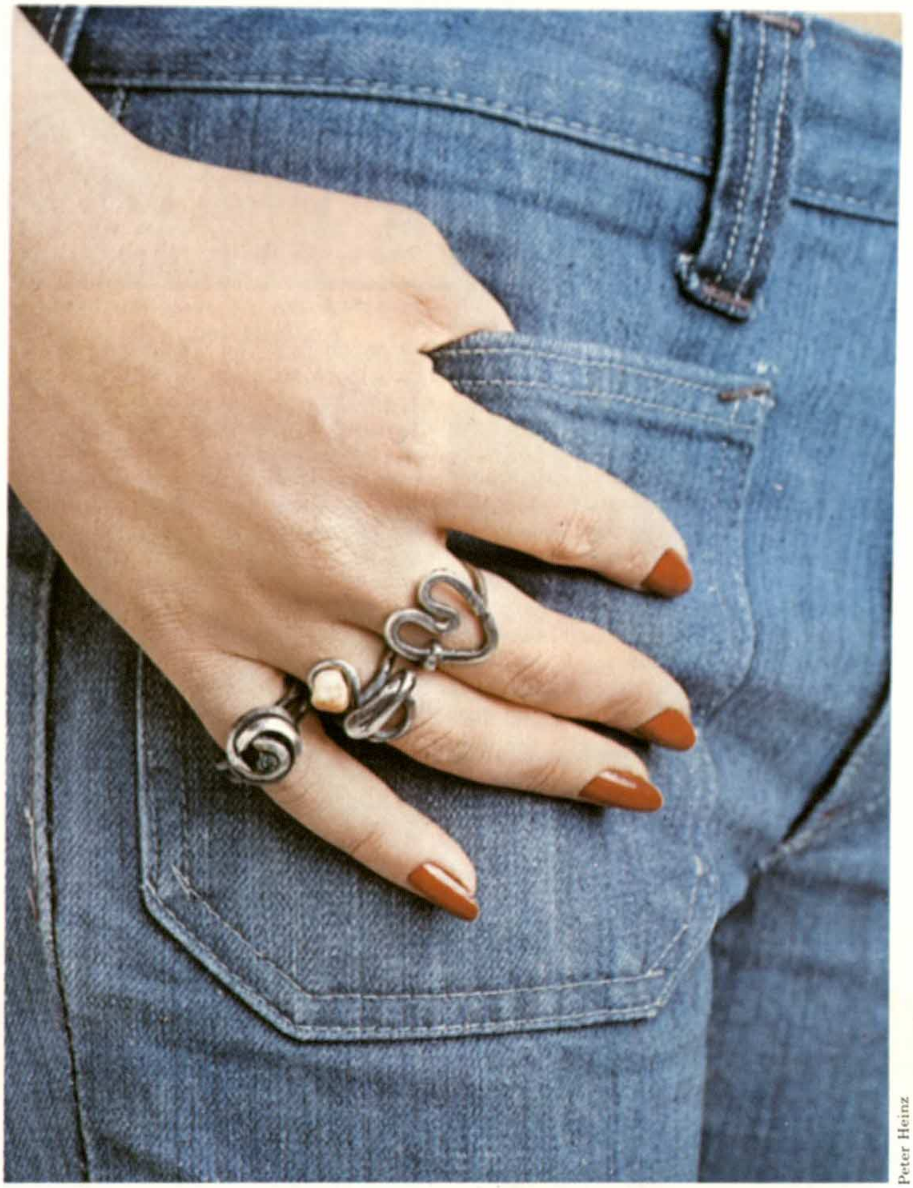
☐ Fit the ring on to the finger. If it is slightly too big, use the round-nosed pliers and make a small kink in the coil that goes around the finger, just below or next to the design, where it will not show.

☐ File the surface down until you get the desired effect. Also file down any imperfections before silver-plating. The plating will not alter the size of the ring.

☐ Send the ring to your jeweller to be silver-plated.

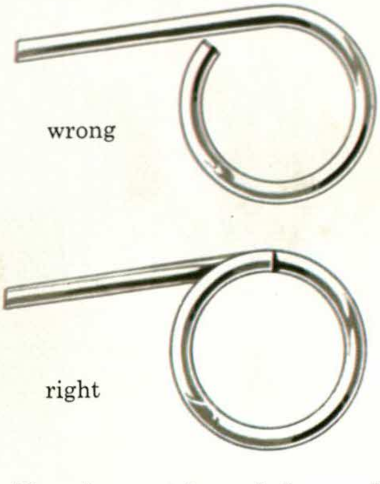
☐ If you wish you can now oxidize the ring and then polish it with a silver polish to restore some of the shiny surface.

☐ Glue a stone to the ring if you wish.



Peter Heinz

When you have made a few rings you can try gluing pretty stones to them for a different effect.



Trevor Lawrence

1. *The wire must be curled around to form a complete circle.*

Ways to make eggs colourful

Egg decorating 1

Eggs are universal symbols of creation and decorating them for gifts and festive occasions is an age-old pastime. In ancient China painted eggs were distributed as edible gifts by benevolent rulers and throughout the world they are still used in festivals and religious celebrations. In the Greek Orthodox church, for example, red eggs are handed out at Easter to symbolize the Resurrection, while in Mexico painted eggs are filled with confetti and used to celebrate the New Year.

The worldwide popularity of decorating eggs is not surprising, considering how much fun it is. The whole family can join in to make a collection and embellishments can be as simple or as elaborate as you wish. Souvenir eggs can commemorate a special day or event and gifts of decorated eggs can make positive expressions of friendship throughout the year. All can be used in a variety of ways to adorn a house or table, making lasting mementoes or momentary edible visions to delight children and grown-ups alike.

Jerry Tubby

Starting at the beginning!

Preparing eggs

Before you begin, make sure the eggs are clean and free from grease. White eggs generally make better decorating surfaces than brown ones as they take colour in a purer form, but for special effects and for painting faces, brown eggs can be used very effectively. The brown simulates skin tones amazingly well.

Eggs may be decorated either hardboiled or with the contents blown out. Blown eggs can be hung with string or wire and last longer, so are better suited for painstaking designs. But hardboiled eggs are easier to do and are recommended for small children.

If you want a hardboiled egg to last a very long time, boil it slowly for half an hour.

To blow an egg place it in an eggcup, small end down, and with a large sewing or darning needle pierce a hole in the top. Then turn the egg upside down and repeat the process, this time making the hole slightly larger.

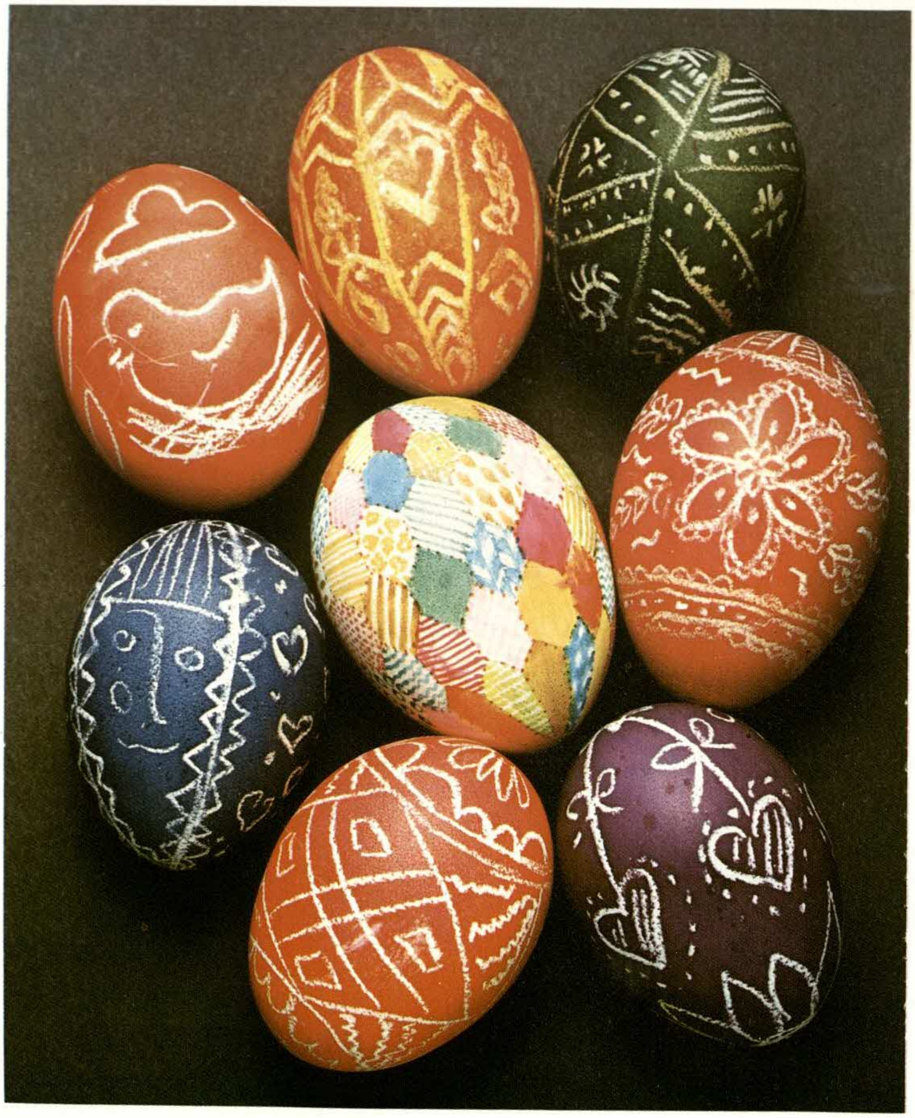
☐ Hold the egg over a bowl and, using a straw or placing your mouth against the smaller hole, blow the contents into the bowl. These may then be set aside for cooking. If the contents do not emerge easily, shake the egg or take a long needle and push it well into the hole to puncture the yolk.

When you have blown the egg, run water through it, shaking gently to clean.

It is advisable to place a drop of candlewax over the holes before you begin to dye so the egg won't fill with the dye mixture.

Decorating techniques

Dyeing eggs. Use either vegetable food colouring (available in food stores



Paul Kemp

Draw on eggs with a wax crayon and dye; or paint with inks (centre egg).

and some pharmacies) or fabric dyes. Fabric dyes have the advantage of an enormous range of colours, producing rich or subtle tones, while food colouring tends to be limited to strong, often garish, hues.

Use the dye according to the directions on the packet, rolling the egg in the mixture with a spoon to get an even colour.

To dry eggs you can use either a rack or an eggcup but the best method is to hammer some nails into a board, sinking in only the tips. A blown egg can be placed on each nail to dry and there is no danger of the surface getting smeared (fig.1).

1

Boards for drying decorated eggs are easy to make using a plank and nails.

Painting eggs. This is one of the most popular forms of egg decoration and can be done in free form with a brush or by tracing a design on to the egg first.

For painting eggs poster paint, ink, felt-tipped pens and general purpose craft paints are all suitable. Egg decorating kits are also available and contain supplies for decorating and colouring eggs in a number of ways.

The kind of paint you use depends on your design; felt pens are excellent for line drawings and can be bought in several colours, while vivid poster paints give the intensity needed in motifs inspired by folk art.

A lustrous, pearl effect can be achieved by painting eggs with several coats of frosted nail varnish. Each coat should be left to dry before you apply the next one.

It is often useful when painting on eggs to steady them by placing in an eggcup and painting first one end and then the other.

Stick and paint techniques are intriguing to work with and can produce unusually delicate designs.

Take some small leaves, blades of grass, petals, or tiny, pressed flowers and dip them in vegetable oil so they will adhere to the surface of the egg.

Stick them on in whatever arrangement you choose and wrap the egg tightly in a piece of old nylon stocking, knotting it at either end of the egg.

Now dye the egg. Afterwards remove the casing and stuck-on objects—the fragile outline of the plants will be imprinted on the surface of the egg.

You can also use paper cut-outs for this technique.

Marbling. One of the most fascinating ways to get a marbled effect on eggs is also one of the oldest.

Wrap an egg in the papery outer skin of an onion and tie in place with some thread.

Tie the egg securely in an old nylon stocking or some cheesecloth and boil. The onion skin creates its own dye and design and when you remove it you will find a yellow, 'marbled' egg.

For a much greater variety of marbled tones, thread thin florist's wire or sewing thread through the holes in a blown egg. Fill a bowl ¼ full of water and drop one or more shades of oil-bound paint on the water. Swirl with a wire to mix the colours a bit and roll the egg lightly across the surface of the water so that it collects the paint floating on the top.

Dip each egg only once. The results are interesting and no two eggs the same.

Batik. This is an age-old form of painting on cloth with wax but is just as suitable for decorating eggs if a cold water dye is used.

Take a bit of candlewax or beeswax and melt it in a spoon over a candle. Using a fine brush or pointed stick, such as a cuticle stick, sketch a design on the egg.

To make dots, a dressmaking pin stuck in a cork can be used to drop the wax from the pin-head on to the egg.

When the wax has hardened, dye the egg and allow it to dry. Then remove the wax by holding the egg near a candle until the wax softens and can be absorbed into a paper towel or cloth.

For a more colourful result, instead of removing the wax after the first dyeing, apply more of it and dye the egg again in a different or darker shade than before. When all the wax is removed you will have three colours in the design instead of two.

Engraving techniques. These techniques produce attractive results but are not advisable for children to try. Always use hardboiled eggs for engraving since the pressure needed to cut the design could crack a blown egg.

There are several engraving techniques: one is to dye the egg first in a deep, rich colour, then take a sharp instrument, like a steel pen nib or a needle, and scratch your design on the egg, revealing the white surface beneath.

Another variation of this involves tracing the design on to the egg and then scratching it into the surface with a needle or some other sharp instrument. When the egg is dyed, the engraved lines take on a deeper colour than the rest of the surface.

Jerry Tubby

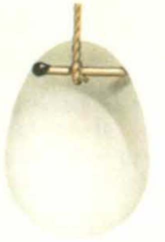
Eggheads are fun to play with.

Wax engraving can also be used on eggs. Heat some candlewax or beeswax in a double boiler and cover an egg with it by dipping first one end and then the other. Your design can then be engraved on the hardened wax so that, when the egg is dyed and the wax subsequently melted in hot water, the design appears on the egg like a line drawing.

To hang an egg

Fasten half a match-stick to some thread and insert it into the large hole in the top of a blown egg. The match will turn at an angle and anchor fast (fig.2). Wire can also be used in this manner and the top bent conveniently into a hook.

2



Decorated eggs can be hung up using a string and match-stick.

Trevor Lawrence

Another alternative is to thread a string or ribbon through the egg and fix at the bottom by tying a bow or covering the hole with a bead.

Other ways with eggs

Apart from gifts and food, decorated eggs can be used in numerous ways: they make colourful 'drops' on mobiles or you can make an egg tree by suspending eggs from a tree limb.

Another idea is an egg paperweight: enlarge the bottom hole in a blown egg, fill the egg with plaster of Paris and decorate. Be sure the plaster is smooth at the bottom hole so the egg will stand upright on a desk.

Beginning with basketry

Basketry 1

Basketry is one of the oldest crafts and has lasted since the beginning of history, adapting itself to various needs throughout the centuries.

It was Britain's first export industry, and the only one when the Romans first arrived. The ancient Britons were extremely good at basketry and made such articles as farm carts and wagons in wicker work. Many of the terms used in basketry even today are of Anglo-Saxon origin.

Many different materials, from cane to willow, are used for basketry and each material has its own particular techniques and adaptations.

Materials

Cane comes from the rattan family which is a creeper from SE Asia. It grows to enormous lengths and has sharp barbs. The outer layer is peeled off and discarded, while the bark is used for chair seating and handle wrapping. The inside pith or pulp is milled into canes of many thicknesses, from 000 (1mm) to 16 (5mm), and handle cane of 8mm or 10mm.

There are various qualities (all natural coloured, of course), 'blue tie' being the best, 'red' or 'green tie' and finally 'white tie' or bleached cane, which is rather poor in quality. Seagrass, strawplait, raffia, enamelled cane or wrapping cane can all be used to add colour and interest; cane can also be dyed with fabric dye.

Preparation

Cane must be soaked in hot water for about 30 minutes before using. Once you start you will soon be able to gauge the soaking time. If it dries while you are working just re-soak it until it is easy to handle.

When you stop allow the work, plus all remaining cane, to dry before you put it away. Do not put damp cane into plastic bags as it will go mouldy.

Tools

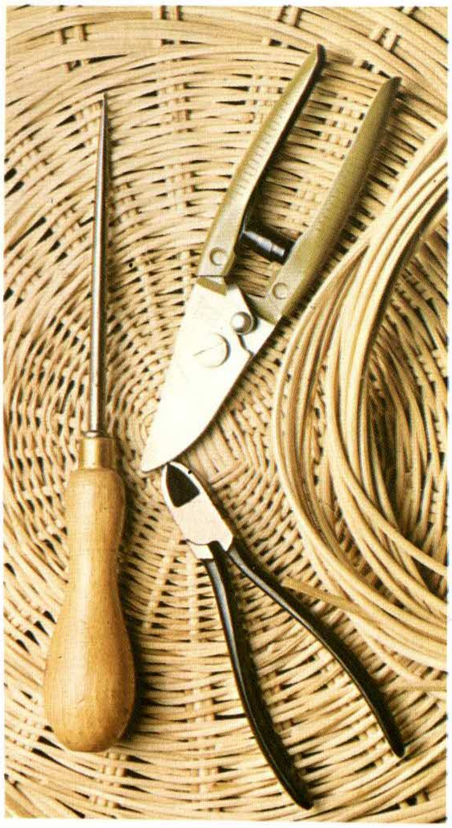
The tools and equipment needed are inexpensive and some can be home-made and some improvised.

Side cutters, obtainable from tool shops, are useful but strong scissors, such as those used for flower arranging, or even garden secateurs will do.

A basket maker's bodkin is essential. It is used to form channels for canes to thread into or to split the cane. You can buy one from a craft supplier or improvise with an old, sharpened screwdriver or a medium-sized knitting needle.

Tape measure.

Clothes pegs are useful for temporarily holding the work in place.



Paul Kemp

Tools and materials include cane, basket maker's bodkin, secateurs (top) and side cutters (bottom).

Techniques

There are various ways to begin a basket. Initially you can use a plastic or wooden base with holes in it made specially for basket making. You can use any base to suit your requirements as long as it has an odd number of holes.

However, as these bases limit the design potential, only use them in order to become familiar with the materials. The holes in the base are not always big enough to hold thick cane which means that you cannot make a large, sturdy basket. Bases also tend to make a basket heavy. However, the picnic basket illustrated is useful and makes an introduction to the various terms.

The picnic basket

The strong basket overleaf will give you years of use. It is designed to hold two flasks and a sandwich box in the middle.

You will need:

227gm ($\frac{1}{2}$lb) No.8 (3mm) cane.

113gm ($\frac{1}{4}$lb) No.5 (2.5mm) cane.

3m (3yd) 10mm handle cane.

5.5m (6yd) glossy wrapping cane or 7.5m (8yd) No.6 (2.6mm) chair seating cane.

1m (1yd) enamelled cane—optional.

56gm (2oz) sea-grass—optional.

Oblong plywood or plastic base 15cm x 41cm (6″x16″) with 49 holes.

☐ Prepare the cane by soaking it in hot water for 30 minutes.

For the ribs, ie the upright stakes; cut 49 stakes of No.8 (3mm) cane 51cm (20″) long. Insert one stake into each hole allowing 10cm (4″) to protrude on the wrong side of the base. If the cane is difficult to push through the holes you can widen them with the bodkin. Alternatively, as the cane swells when wet, insert the canes before soaking and soak them afterwards.

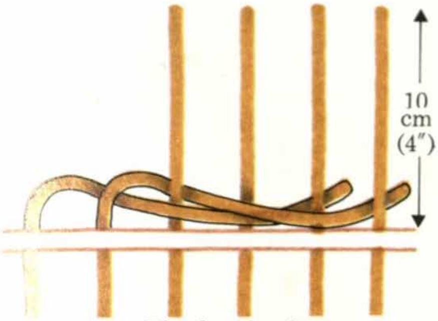
To make a foot border under the basket.

☐ Hold the base with the right side towards you and the short stake ends away from you. Starting with any stake end, bend it down to the right behind the next stake and back to the front. Then pass it in front of the next 2 stakes and tuck it to the back through the next space (fig.1).

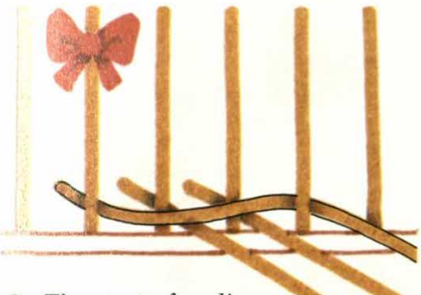
☐ Repeat with each stake in turn. It will help if you say to yourself "Behind one, in front of two, and tuck it in". At the end of the round weave the stakes in and out of stakes that have already been turned down. You may have to push these stakes up a bit to get the others through. When they are all in place, give each stake a little pull to see that they are all tight and level.

☐ Place the basket right side up on the table. Put some sort of weight (a stone, flat iron) inside the basket to keep it steady. This will make it easier to hold the work and also to keep the shape you want.

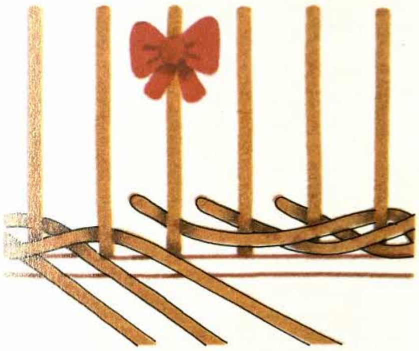
Now you have to wale. Waling is a weave used for strength and is put on the bottom and the top of a basket. When a basket starts to lose its shape, a band of waling will help to retain it. It can be done with 3, 4, 5 or 6 weavers —for this basket use 3 weavers.



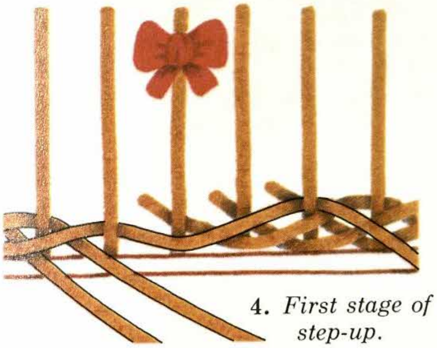
1. *The foot border.*



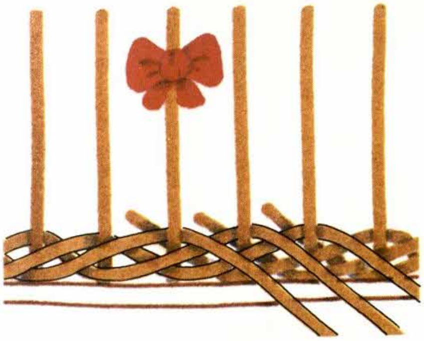
2. *The start of waling.*



3. *Starting the step-up.*



4. *First stage of step-up.*



5. *The step-up completed.*

☐ Insert 3 lengths of No.5 (2.5mm) cane, to be used as weavers, into any 3 consecutive spaces. Mark the stake immediately to the left of the first one in some way. Take the left hand weaver to the right in front of 2 stakes, over the top of the other 2 weavers and round the back of the next stake to the front again (fig.2).

☐ Now use the next left hand weaver and do exactly the same as before and then repeat with each weaver in turn all the way round the basket and back to the marked stake (fig.3).

Here you have to do a 'step-up'. If you don't, the work jumps up and spirals and the weave doesn't have the continuous rope effect that it should. You have to do this step-up at this spot on every round and then continue as you started.

☐ Take the right hand weaver in front of 2, behind one and through to the front again (fig.4).

☐ Take the middle one in front of 2 and behind one. Take the left one in front of 2 and behind one (fig.5).

All the weavers should now come out of the same 3 spaces you started with.

☐ Continue until you reach the marked stake again and step-up.

☐ Put on 5 rounds of waling, remembering to step-up at the marked stake, joining in new lengths when necessary.

Joining weavers. Join in when the cane which has run out is on the left of the other weavers. Pull it backwards slightly and insert the new cane into the hole beside, and to the right of, the old one. This means that the old and new weavers will lie side by side and the old end will be to the front and the new end will be inside the basket (fig.6). The ends are tidied later.

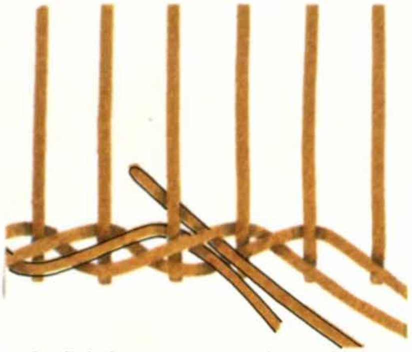
☐ To complete the 5 rounds of waling use the left hand weaver (not the right one this time), in front of 2, behind one and to the front again. This will go round the back of the marked stake. Cut it off to about 7.5cm (3″) (fig.7).

☐ Now use the next left hand weaver and pass it in front of 2, behind one and through to the front, but on its way to the front thread it under the top cane of the previous round. Cut this one off (fig.8).

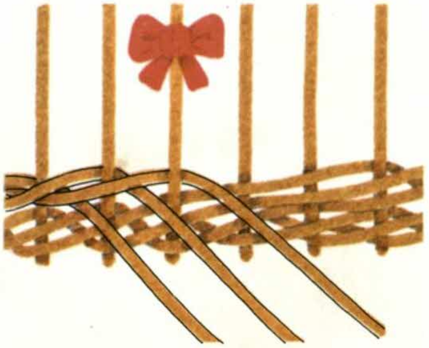
☐ Use the last weaver now, in front of 2 and behind one, but thread it under the top 2 canes of the previous round, and cut it off (fig.9).

Bye-stakes are extra stakes that lie beside the main stakes to make the basket stronger.

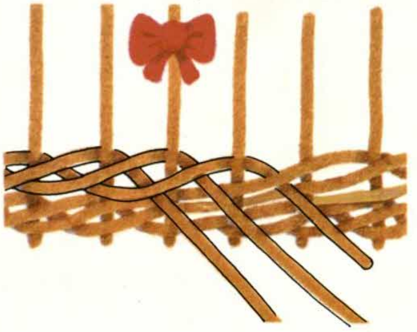
☐ Cut one bye-stake for each stake, 41cm (16″) long of No.8 (3mm) cane. Make a point at one end of each and insert them into the waling, one on the right of each stake. They must lie in the same channel as the main stake. Use the bodkin to help form a passage for them to slip into (fig.10).



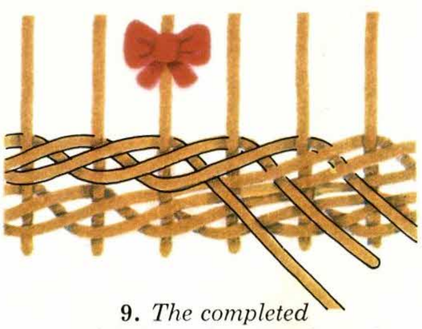
6. *Joining new cane in waling.*



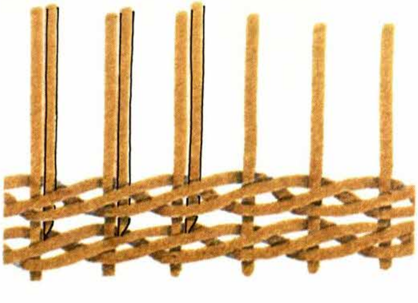
7. *The end of the waling.*



8. *Next stage in finishing the waling.*

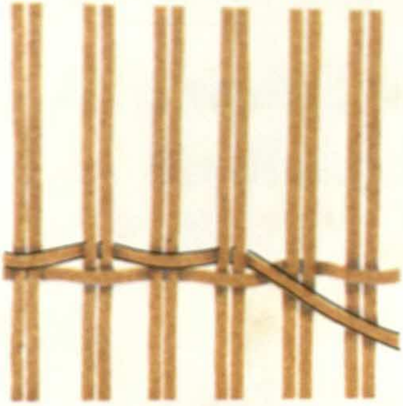


9. *The completed waling before trimming the ends.*

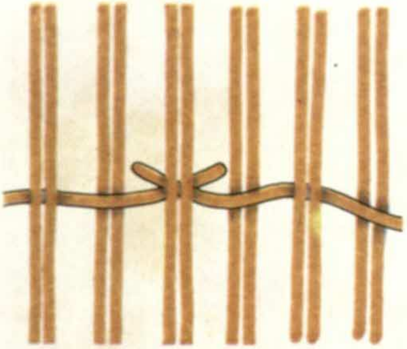


10. *Inserting bye-stakes.*

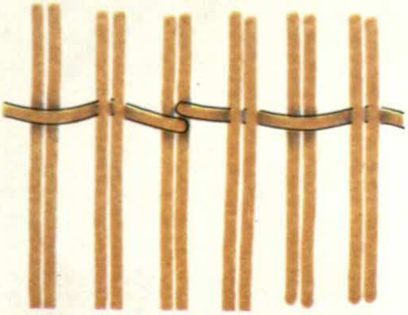
Victoria Drew



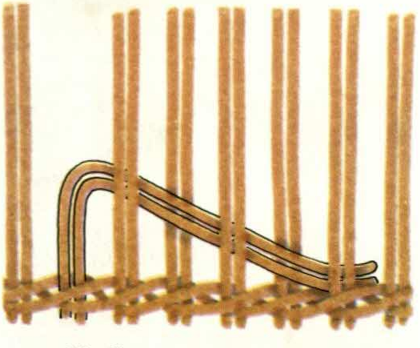
11. *Randing.*



12a. *Front view of a new cane being joined in randing.*



12b. *Back view of join with the ends trimmed back.*



14. *Starting a trac border.*

Randing is a weave for economy and speed. It is very easy and only one weaver is used at a time.

☐ Put a weaver of No.5 (2.5mm) cane into any space and weave to the right, in front of one pair and behind one pair. Continue all the way round. There is no step-up in randing (fig.11).

Shaping. You must concentrate on the shaping. Every time a weaver goes round the front of a stake, hold that stake with the thumb and forefinger of the left hand. As you want the sides of the basket to go up straight you must hold the stake upright.

To join in a new weaver leave the old one at the back of a stake and place the new one against the same stake at the back (fig.12a).

Leave the ends until the siding is finished and then trim off with a slanting cut so that they won't catch on anything in the basket (fig.12b).

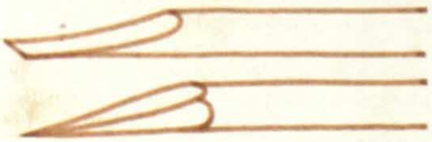
☐ Rand for 9cm (3½″) keeping the sides quite straight.

☐ Wale for 3 rounds with No.5 (2.5 mm) cane and step-up as before.

Preparing for the handles. At this point start making room for the handles to fit into later.

☐ Cut 4 pieces of the handle cane about 23cm (9″) long, for liners, and slype one end.

Slyping is a special way to cut cane to a point. It is done by making cuts on 2 consecutive quarters of the cane (fig.13).



13. *A slype is made with two cuts.*

Slypes can be any length but start these 5cm (2″) from the end.

Insert 4 'handle liners' into the siding of the basket, beside 4 stakes and where you want your handle to be. Allow 8 stakes between the 2 liners on each side. Continue to weave round stake and liner together to form holes for the real handle.

☐ Rand for 2.5cm (1″) with sea-grass. You could substitute flat cane, raffia or No.5 (2.5mm) cane.

☐ Wale for 3 rounds with No.5(2.5mm) cane.

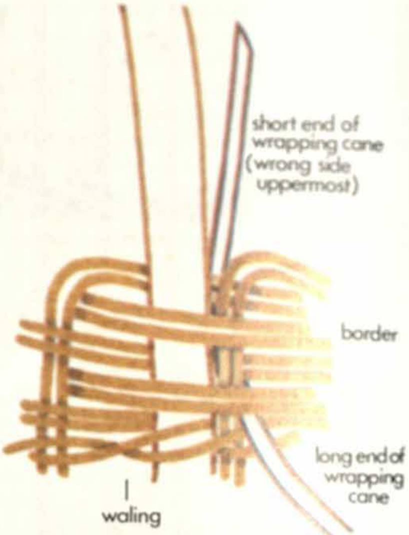
☐ Rand for 2.5cm (1″) with sea-grass.

☐ Wale for 3 rounds with No.5 (2.5mm) cane.

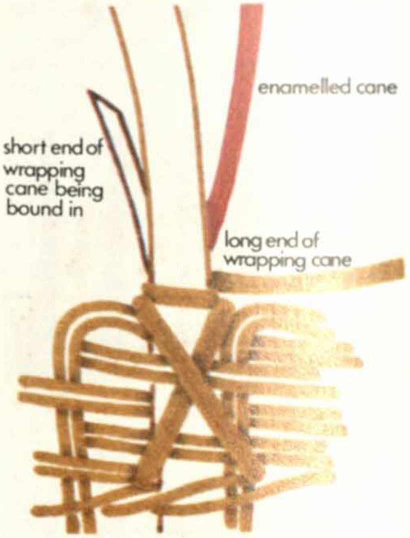
Trac border. The sides of this basket are finished with a trac border.

☐ Re-soak the stakes if necessary and start with any stake and refer to it as the 1st and the next one to the right as 2nd, and so on.

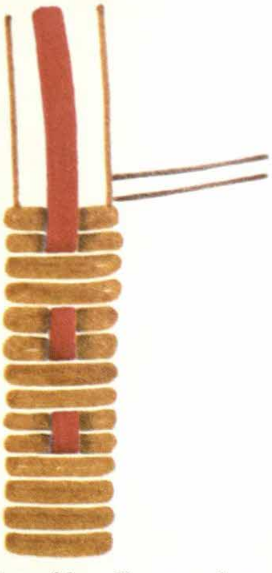
☐ Bend the first stake and bye-stake together, 4cm (1½″) up from the waling,


short end of wrapping cane (wrong side uppermost)
border
long end of wrapping cane
waling

15. *Starting to wrap the handle.*


enamelled cane
short end of wrapping cane being bound in
long end of wrapping cane

16. *Wrapping the handle.*



17. *Side view of handle wrapping showing the weaving over and under the enamelled cane.*

with quite a sharp bend. Pass this pair behind the 2nd pair, in front of the 3rd, behind the 4th, in front of the 5th and tuck them to the inside of the basket behind the 6th pair (fig.14).

☐ Now bend the 2nd pair down, making sure that the elbow of the bend is exactly the same height as the first bend. Repeat the weaving as for the previous pair and tuck them in behind the 7th pair.

☐ Repeat with each pair in turn and finish in exactly the same way, although you will weave the last few in front and behind stakes that have already been turned down. Be sure to keep them all in the correct order and don't let any cross over any others. Go in front of and behind the handle liners, together with the adjacent stake, and keep the pattern correct.

☐ Trim all ends of the weavers and the stakes with a diagonal cut so that they do not stick out. The border stake ends must lie against a stake or they will slip through to the front.

☐ Cut 2 pieces of prepared handle cane each 65cm (26″) long and slype all the ends. Bend into U-shapes. Remove the handle liners and keep them as they can be used again. Insert the handles well down into the spaces so the weaving grips them tightly. The handles should be about 13cm (5″) high.

☐ Insert a length of prepared wrapping cane, wrong side uppermost, into the siding, just under the border and to the immediate right of one of the handles. It should protrude 15cm (6″) to the inside (fig.15).

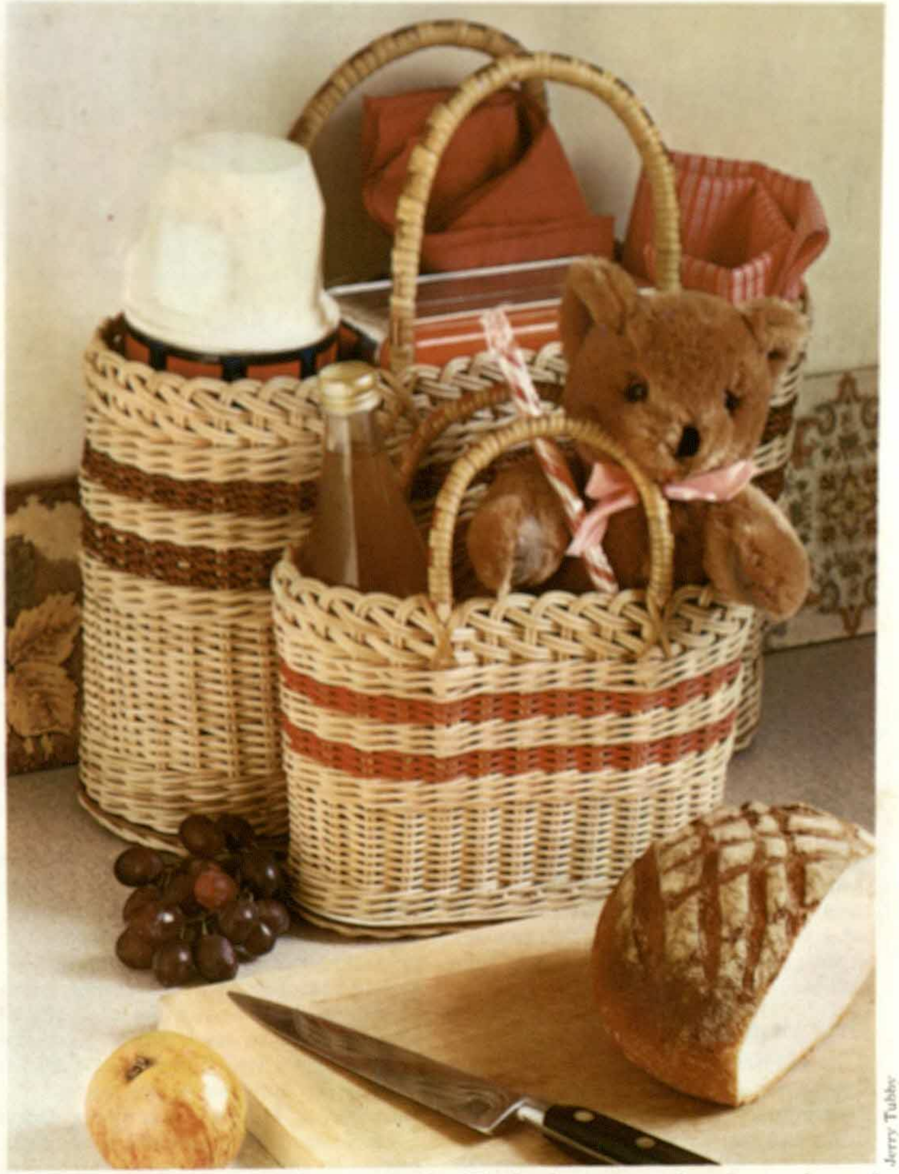
☐ Bring this short, protruding end up and over the top of the border, then down and across in front of the handle and the border. Re-insert it into the siding again just under the border, but this time to the left of the handle. Bring this same end up to lie behind the handle where it will be bound later.

☐ Cut a piece of enamelled cane (or wrapping cane), 41cm (16″) long, and insert it into the siding so that it lies against the outer curve of the handle, right side out. Use a peg to keep it in place temporarily (fig.16).

☐ Take the long end of the wrapping cane up and across the handle and the border so that a cross is formed in front of the border. Wrap this long end round the handle 4 times, binding in both the short end and the enamelled cane.

Continue to wrap the handle tightly but pass it over and under the enamelled cane to form a pattern (fig.17). This is not only decorative but helps to keep the wrapping tight. This handle was wrapped under twice and over twice but you can make any pattern you like.

☐ Continue wrapping handle, keeping the enamelled cane at the top and finish as you began with 4 plain wraps and a cross in front of the border to match the other end. Weave the end in and out of the waling to secure it.



The baskets are made using a plywood or laminated plastic base. The larger one is ideal for picnics and the smaller one is a child's basket.
Designed by Barbara Maynard.

☐ If you need to join in a new piece of cane lay the new cane, wrong side out, underneath the handle, when there is still enough of the old wrapping left to do another 5cm (2″). Continue to wrap with the old cane, binding the new cane in, until there is only 4cm (1½″) left of the old piece. Turn the new piece so that the right side is on the outside and commence wrapping with it. At the same time lay the old piece on the underside of the handle and bind it in with the wrapping.

☐ The handles need to be secured with a peg so that they will not slip out from the basket. While the handle cane is still wet, pierce it with a bodkin between the first and second rounds of the top waling.

☐ To make the peg point a short piece of No.10 (3.35mm) cane, or a wedge of the handle cane, and insert it into the hole made by the bodkin. It must come right through to the inside. You may have to tap it in with a hammer.

Cut this peg off, on the inside and the outside of the basket, level with the waling. This forms a peg which prevents the handles from slipping out. Repeat on the other 3 places where the handles enter the sides.

☐ Finish the basket by shaping the handles. Make them curve towards each other by tying them together at the top while they are still wet. At the same time keep the sides of the basket apart by placing a book or a block of wood inside at border level. Leave it in position until the handles are dry.

How to draw polygons

Design know-how 8

Regular hexagons, octagons, and other related shapes form the basis of many designs and motifs. All these regular polygons are fiendishly difficult to draw freehand: but there is a straightforward way to construct any regular polygon—and short-cut ways to draw regular hexagons and octagons.

Regular polygons are geometric shapes all of whose sides and angles are equal. Equilateral triangles and squares are, technically, regular polygons but the term is normally used to mean shapes with five or more sides. Many of these have special names, derived from Greek, and the more common ones are shown in the box.

Any regular polygon will fit exactly into a circle, with each corner touching the circumference. If you draw radii to adjacent corners of the polygon, they will form an angle at the centre equal to 360° divided by the number of sides of the polygon (fig.1). You can use these angles to draw polygons of any number of sides.

Drawing a polygon

You will need:

Compasses (or string and pencil).
Protractor.
Ruler and pencil.

☐ Draw a circle, the size you want the polygon to be. Carefully mark the centre, where the pin was, and draw a radius. Divide 360° by the number of sides of the polygon (fig.2 and box).

☐ Using the protractor, mark off this angle to the radius, at the centre of the circle. The radius made by this angle will end at the next angle of the polygon. Repeat this all round the circle and join up the points to form the polygon (fig.3).

☐ As long as you have a clear mark for setting the protractor, there is no need to draw in the radii. If you are drawing a figure with an even number of sides, you only have to mark the angles round half the circle; for the other half extend the radii to form diameters which will give the other points of the polygon.

Hexagons are among the most useful Polygons—they are the only regular shapes, apart from triangles and some quadrilaterals, that will form a solid pattern requiring no other shapes (fig.4). This is because they can be constructed from six equilateral triangles—the angles at the centre, between lines drawn from adjacent points of the hexagon, are 60°.

Being made up of equilateral triangles means that the sides are equal to the radius so you can draw a hexagon without a protractor.

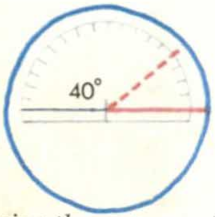
Draw a circle. Keep the span of the compasses the same, put the pin on the circumference and make another arc. Repeat this round the circumference to give the points of the hexagon.

Octagons can be combined with squares to make solid patterns (fig.5) or laid next to each other to make chains for borders. These can be drawn without protractors in two ways.

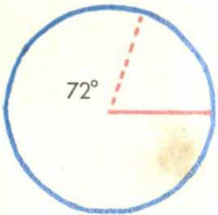
One method is based on a circle. Draw a circle and two diameters at right angles to each other. Bisect the angles between these two diameters to give two more diameters (fig.6). Connect the ends of the four diameters to give an octagon.

Another method is based on a square. Draw a square and mark the point where the two diagonals cross. Set the span of your compasses to the distance between this point and the corners of the square. With this span, put the pin at each of the corners of the square in turn and make arcs to cut the adjacent sides (fig.7). Join up the points thus given to form the octagon.

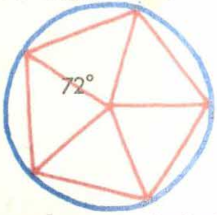
Name	Number of sides	Angle at centre
pentagon	five sides	72°
hexagon	six sides	60°
heptagon	seven sides	$51\frac{3}{7}$°
octagon	eight sides	45°
nonagon	nine sides	40°
decagon	ten sides	36°



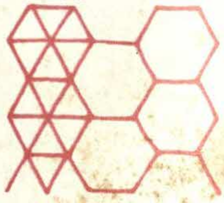
1. *Measuring the centre angle of a polygon: for a nonagon the angle is 40°.*



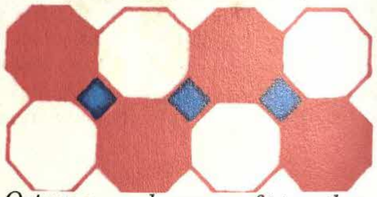
2. *Drawing a polygon by marking off the centre angles; to draw a pentagon the angle is 72°.*



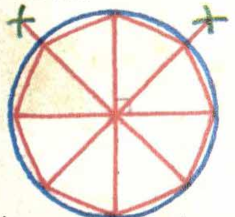
3. *When you have marked off radii all round, join up the points where they end to give the polygon.*



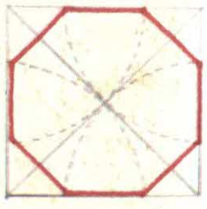
4. *Hexagons fit together to form honeycomb patterns; the row on the left is made up of equilateral triangles.*



5. *Octagons and squares fit together to form patterns.*



6. *Drawing an octagon in a circle.*



7. *Drawing an octagon in a square.*

Victoria Drew

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